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TITLE (LITHUANIAN)	TITLE (ENGLISH)
Operatyvus informacijos vertinimas naudojant DI: TUI reputacijos indekso matavimo sistema Baltijos šalims	AI-based Monitoring of FDI Perceptions: Developing a Real-Time Reputation Index for Investment Promotion Agencies in the Baltic States

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SUMMARY

AI-based Monitoring of FDI Perceptions: Developing a Real-Time Reputation Index for Investment Promotion Agencies in the Baltic States

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This thesis investigates the application of real-time media exposure and sentiment signals to assess foreign direct investment (FDI) attractiveness for investment promotion activities in the Baltic States. The work focuses on the growing mismatch between rapidly changing perception dynamics and traditional FDI evaluation tools, which rely on lagged statistical indicators and infrequent surveys. The scientific problem is the absence of a platform capable of continuously monitoring FDI-related perceptions of volatile entities in mass media.

The thesis objective is to develop and test a real-time investment reputation index based on AI-driven media analytics to support investment promotion agencies (IPAs). To achieve this objective, the study first analyses the determinants of FDI and investor perceptions through a literature review, then identifies FDI-relevant communication narratives and examines them across passive and active media exposure components provided by a professional media monitoring provider. Finally, the study employs natural language processing methods, as well as sentiment, narrative, prominence, and quantitative interest analysis to construct a country-level FDI perception index to examine investment image patterns across the three Baltic States.

The findings indicate that active perception indicators, including search-driven visibility and curated information environments, are more closely aligned with investment-related attention than passive media exposure alone. Comparative analysis reveals distinct FDI-related reputation profiles across the Baltic States, with Lithuania demonstrating the strongest overall performance in the constructed index and independent investment assessments by popular large language models (LLMs).

The conclusions confirm that real-time perception monitoring works alongside traditional FDI indicators and provides practical value as an early-warning and reputation-management tool for IPAs. Based on the findings, practical recommendations are formulated to improve investment communication, narrative targeting, and strategic reputation management. The results are intended for application in investment promotion practice and further development of AI-based monitoring solutions.

SANTRAUKA

Operatyvusis informacijos vertinimas naudojant DI: TUI reputacijos indekso matavimo sistema Baltijos Šalims

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Darbo vadovas: Prof. Dr. Tadas Limba

Darbe nagrinėjama, kaip realiu laiku tikrinami žiniasklaidos aktyvumo bei sentimentų rodikliai gali būti taikomi tiesioginių užsienio investicijų (TUI) patrauklumui vertinti ir investicijų skatinimo veikloms Baltijos šalyse remti. Tyrime sprendžiama problema, kylanti dėl sparčiai kintančios valstybių įvaizdžio dinamikos bei tradicinių TUI vertinimo priemonių, kurios dažniausiai grindžiamos faktiniais statistiniais rodikliais ir vėluojančiomis apklausomis. Darbe sprendžiama mokslinė problema apibrėžiama kaip specialiai pritaikytos ir didelį kiekį žiniasklaidos duomenų išanalizuoti bei atfiltruoti galinčios sistemos, leidžiančios nuolat realiu laiku stebėti su TUI susijusias užsienio investuotojų suvokimą, trūkumas rinkoje.

Tyrimo tikslas – sukurti ir empiriškai įvertinti realaus laiko investicinės reputacijos modulį, paremtą DI grindžiama žiniasklaidos analitika, skirta užsienio investicijų plėtros agentūrų strateginiam sprendimų priėmimui siekiant gerinti šalies įvaizdį. Siekiant tyrimo tikslo, visų pirma, mokslinėje bei rinkos tiriamojoje literatūroje yra analizuojami teoriniai TUI pritraukiantys šalies įvaizdžio veiksmų veiksniai. Tuomet, remiantis šiais, investuotojus dominančiais tikslais, yra apibrėžiami TUI komunikacijos naratyvai, kurie yra tiriami žiniasklaidos monitoringo įrankio surinktų medijos duomenų aktyviojoje ir pasyviojoje dedamosiose. Duomenys yra tiriami pasitelkiant natūraliosios kalbos apdorojimo metodus, prijungiant tekstų sentimentų, naratyvų, vaidmens tekste bei investuotojų dėmesio bei pasiekiamumo įverčius. Analizėje yra pasitelkiami tiesinės regresijos bei lyginamieji tyrimo metodai, skirti nustatyti santykį tarp TUI bei jas lemiančių veiksnių, o taip pat ir apžvelgti skirtumus tarp trijų Baltijos šalių investicinio įvaizdžio profilių.

Rezultatai rodo, kad aktyvusis žiniasklaidos komponentas, turintis tokias dedamąsias kaip paieška Google ar didžiuosiuose kalbos modeliuose, gali būti stipriau siejamas su investiciniu aktyvumu nei vien pasyvus žiniasklaidos vartojimas. Analizė atskleidžia skirtingus Baltijos šalių investicinius profilius, o tarp jų Lietuva pasižymi geriausiais bendrais rezultatais tiek sudarytame indekse, tiek nepriklausomai didžiųjų kalbos modelių sudarytame vertinime.

Darbo išvados patvirtina, kad realaus laiko žiniasklaidos stebėseną papildo tradicinius TUI rodiklius ir jau turi praktinę vertę kaip ankstyvojo perspėjimo ir reputacijos valdymo priemonė užsienio investicijų skatinimo agentūroms. Remiantis tyrimo rezultatais, pateikiamos praktinės rekomendacijos investicinės komunikacijos, naratyvų taikymo ir strateginio reputacijos valdymo tobulinimui. Tyrimo rezultatai skirti taikyti investicijų skatinimo praktikoje ir tolesniam DI pagrįstų stebėsenos sprendimų vystymui.

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LIST OF ABBREVIATIONS

- AI** – Artificial intelligence
- DDI** – Domestic direct investment
- ECB** – European Central Bank
- ESG** – Environmental, social, governance
- ETF** – Exchange-traded fund
- FDI** – Foreign direct investment
- FMT** – Final master’s thesis
- GDP** – Gross domestic product
- GEM** – Global Entrepreneurship Monitor
- GEO** – Generative engine optimization
- GSV** – Google search volume
- GSVI** – Google search volume index
- ICT (sector)** – Information and communications technology
- IFDI** – Inward foreign direct investment
- IPA** – Investment promotion agency
- LLM** – Large language model
- MVP** – Minimum viable product
- NBI** – Nation brand index
- NLP** – Natural language processing
- NPP** – Nuclear power plant
- OECD** – Organization for Economic Co-operation and Development
- OFDI** – Outward foreign direct investment
- ROI** – Return of investment
- SEO** – Search engine optimization
- SQL** – Structured query language

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INTRODUCTION

Background & Relevance

Foreign direct investment (FDI) flowing into smaller yet emerging economies, such as the Baltic States, can be considered a cornerstone of a country's economic growth. For instance, net FDI inflows accounted for 20.3% of Estonia's GDP in 2021 (World Bank Group, 2025). Countries that lack big domestic markets to exploit must rely on foreign investments to drive modernisation, innovation, and competitiveness. In addition to capital inflows, FDI ensures the long-term influx of talents, skills, and technology to a host country (Makki & Somwaru, 2004).

While traditionally investment decisions are perceived as corporate data-driven conclusions, research shows that they are heavily influenced by softer factors of the host country. According to studies, strong institutions and positive views lower the risk of volatility in FDI inflows, while a weak perception of a country can introduce risks and block some of the decisions (Buchanan et al., 2012; Okada, 2013).

Investors are exposed to topics of certain lesser-known perceptions by the digital media. Evidentially, data from online search engines and general media coverage can be relied on to capture the attention and sentiment of investors, sometimes resulting in real-time capital flow fluctuation (Da et al., 2009; X. Li et al., 2015). The limited global exposure of the Baltics sensitises their appearances in international media; thus, their attractiveness can appear more dynamic than that of the bigger countries, especially in terms of stability, trust, economic advantages, and reputation (EY Europe Attractiveness Survey, 2025).

Some of the mentioned factors (sensitive dynamics, speed of information flows, and importance of investors' views of the topic) call for a solution that could systematically and in real time monitor these FDI perceptions and weaponize countries to act on them rapidly.

Problem Statement

Despite the recognised importance of reputation and perceptions in attracting foreign direct investment, current evaluation methods remain fragmented, subjective, and infrequent. Existing indexes and surveys fail to provide real-time monitoring, which is essential, particularly for small states where sudden perception shifts may have a disproportionate economic impact. At the same time, advances in AI and open-source intelligence offer new technical possibilities for extracting perception signals from large-scale media data. Still, these methods have not yet been systematically adapted or validated for FDI-related country

attractiveness analysis. The scientific problem, therefore, lies in the lack of a framework for continuously measuring and filtering out specifically FDI-related country perceptions in mass media, as without such a system, perception dynamics remain unobserved and cannot be controlled or relied on during investment promotion decision-making.

Research Objective

The objective of the research is to use AI-driven media analytics to develop a real-time investment reputation index that monitors FDI perceptions in the Baltic States and supports investment promotion agencies (IPAs) in strategic decision-making.

Research Tasks

To achieve the Final Master Thesis (FMT) objective, the following tasks have been set:

1. Review theoretical foundations on FDI determinants, behavioural aspects of investor decision-making, and the role of a country's reputation and soft power in it.
2. Examine the current FDI landscape in the Baltic States, identifying strengths and weaknesses, media framing, and tendencies.
3. Investigate perception-building mechanisms, including the influence of international media coverage (passive component), online search behaviours (active component), and the increasing reliance on large language model (LLM) platforms as an alternative information source for investors.
4. Develop a methodological framework that integrates qualitative detection of FDI communication narratives and their real-time media monitoring across different domains to capture the "temperature" of FDI attractiveness in different foreign regions.
5. Benchmark the system indicators against FDI inflows, as well as other global indices, to evaluate and compare their accuracy, explanatory power, and added value for IPAs.
6. List actionable recommendations and build a business model for investment promotion agencies, outlining how real-time monitoring of perceptions can be applied in practice to strengthen investment reputation, respond quickly to its shifts, and enhance long-term FDI attractiveness.

Research Methods

This study is designed through multiple research methods that integrate qualitative media mentions input with quantitative FDI analysis to ensure both theoretical depth and empirical assurance.

First, a systematic literature review establishes the conceptual foundation, focusing on FDI determinants. A set of communication narratives is created based on the literature findings. Secondly, foreign media data on the Baltic States is collected from various sources and filtered according to the requirements of the study. Third, the media data is processed through NLP, using narrative analysis to distinguish media mentions relevant to foreign investors, a brand prominence model to capture the role of the mentioned entities within texts, and a sentiment analysis model to capture the magnitude of mention's significance. Fourth, supporting data is collected from official sources to contribute to analytical insights in terms of FDI numbers, as well as the Google search volume and reach of the mentions. Fifth, the landscape of Baltic States FDI temperature in foreign media is being measured, compared between, and used in analysis with linear regression models to determine the connection between FDI and media factors. Finally, a prototype FDI perception index is created, an analysis dashboard for IPAs is built using a business intelligence tool, and the model is compared with existing FDI indices.

Identification of Difficulties

- Data availability & consistency: limited or inconsistent real-time media data across countries. Reponse data will only be available from 1st of January 2025, while FDI data might only be available from earlier periods at the time of the analysis.
- Identifying the best-suited narratives: there are many described in literature; the optimal number needs to be determined and validated in terms of not leaving gaps or allowing narrative clusters to overlap.
- Figuring out the exact use case with IPAs.
- Validation: Ensuring that the constructed perception index reflects real investor decision-making and is not merely a statistical artefact.

Structure of the Work

FMT is structured into five main chapters. The Introduction presents the background, research problem, objectives, and methodological framework. The Theoretical Part aggregates existing studies on FDI determinants, perception, importance of measuring soft power, investor bias, and their search behaviours, together with the basis of deeptech entrepreneurship, highlighting gaps in current solutions and open business opportunity for a new solution. The Methodology chapter outlines the research design, including data sources, building communication narratives and perception indicators, and discusses analytical tools utilised.

The Practical Analysis chapter presents empirical findings, demonstrating the construction, reliability, and application of the proposed AI-based perception index in the Baltic context. Finally, the Conclusions & Recommendations summarise key insights, recommendations, and discuss practical implications, as well as directions for future research.

Justification of Novelty and Relevance

This thesis introduces novelty by reforming traditional macroeconomics FDI analysis determinants analysis to real-time soft power country perception monitoring through AI-driven tools. Unlike conventional surveys or annual reports, which capture investor sentiment with significant time lags, the proposed approach uses tested search engine practices, live media coverage, and the potential of generative AI outputs to provide timely insights about shifts in investors' attention as well as actionable insights. The novelty lies in combining perception dynamics with deeptech entrepreneurship, specifically the application of large language models for open-source intelligence in the foreign investment domain.

The relevance of this research is led by the growing importance of perceptions and soft power in shaping FDI flows. For small economies like Lithuania, Latvia, Estonia, or similar countries, reputation fluctuation or misinformation attacks abroad can quickly determine investment decision-making, while local IPAs lack tools to monitor these dynamics in real time. By developing a perception index tailored to their needs, the FMT addresses both a theoretical gap and a practical demand for actionable intelligence in the field.

Scientific and Practical Value

This Final Master Thesis extends FDI research by integrating perception, media exposure, and reputation analysis into location-based investment attractiveness assessment, demonstrating the use of LLM-based tools as a methodological innovation for real-time monitoring at the location (L) level of the OLI paradigm. From a practical perspective, it provides investment promotion agencies with actionable recommendations to identify shifts in foreign investor perceptions and concrete steps for addressing negative media narratives, thereby supporting more targeted communication and stronger regional soft power.

1. THEORETICAL PART

1.1 Foreign Direct Investment Theory

1.1.1 Definition and Importance of FDI

Investing by itself can be described as a process, during which a person (investor) willingly puts aside their current material (usually financial) assets with an acknowledged risk to a purpose of obtaining a future profit out of it (Utami & Subagyo, 2024). Capital investment is often further distinguished by territorial characteristics into domestic or direct domestic investments (DDIs), inward foreign direct investments (IFDIs), and outward foreign direct investments (OFDIs) as separate variables (TAN et al., 2016).

This study is focused on foreign direct investments (FDIs) which were described by previous studies as a key element of globalization and the combination of capital, technology, management, and entrepreneurship that allows investors in a source country to produce goods and services elsewhere (Sadeghi et al., 2020). The phenomenon is also described as a long-term economic relationship related to an investor's long-term interests in an economic entity located in a country other than the investor's country (Alina, 2018).

From the perspective of investors, significantly more FDI is made into advanced economies than into developing ones because of the information asymmetry and lower associated risk. However, FDI into developing countries yields a higher return on investment (ROI) due to cheaper labour costs, market openness, and favourable incentives (Ly et al., 2018).

Despite the potential profits sought by the investor party, FDI is of very strong importance for the investment recipient (*host*) country. This is especially visible in low-medium economy countries as the influx of investment capital from a foreign entity boosts the host country's economic growth, wages, and working conditions (Burns et al., 2017)

Among other host country benefits that were named in previous studies, it was marked, that such investments does not only provide a financial boosts of money, but it does directly and notably contribute to the creation of new jobs, the acquisition of new skills, the adoption of new technologies, and the development of scientific research (Sarkodie & Strezov, 2019) Additional to the financial benefits, IFDI raises host country's competitiveness and increases the level of skills possessed which can later on affect in a strengthened domestic market as well (Bayar et al., 2020).

1.1.2 Potential Negative Effects of FDI

FDI evidently comes with a major package of additional bonuses for the host country, and it is not a surprise that even medium-high economy OECD class countries are putting strong efforts into attracting FDI, as for them, it still very much drives competitiveness, growth, and productivity. Although some studies and reports demonstrate a flip side of the FDI, noting their risks in OECD countries, such as repatriation of profits and displacement or crowding out of DDI (OECD Economic Surveys, 2025). A report from the Baltic States analysis also discusses the positives that a host country receives from FDIs, but calls it a short-term positive, while marking the long-term negative effects tied to heightened competition and resource shifts from domestic markets to export-oriented production (Yeboah, 2025). Additionally, an article from Xu & Sylwester analyzes the visible effect of “brain drain” and how FDIs can increase emigration to a source country from a host country (Xu & Sylwester, 2016).

This literature polemically discusses the topic of IFDIs, does not advocate against acquiring it, but rather warns against emphasizing it as a pure silver bullet. As studies from Latin America showcase, the appearance of underlying IFDI issues depends on multiple factors, including region, sector, and government plans (Agosin & Machado, 2005; Aitken & Harrison, 1999). These studies conclude the positioning of this thesis, considering the overall impact of FDIs for a host country, a strongly positive effect, with the condition of smooth implementations of governmental strategies for economic growth.

1.1.3 FDI is Slowing Down in Europe

Europe’s FDI fell 5% in 2024, reaching a nine-year low, with a whopping 16% decrease of the jobs created by FDI. This trend can be explained by the post-COVID period, geopolitical uncertainty after Russia’s military invasion of Ukraine, as well as shifting trans-Atlantic relationships between Europe and the US. Among the top three risks to Europe’s potential to attract FDI, geopolitical tension/conflicts, macroeconomic conditions, and tariffs/barriers to trade were reported by specialists (EY Europe Attractiveness Survey, 2025; Hosen et al., 2024).

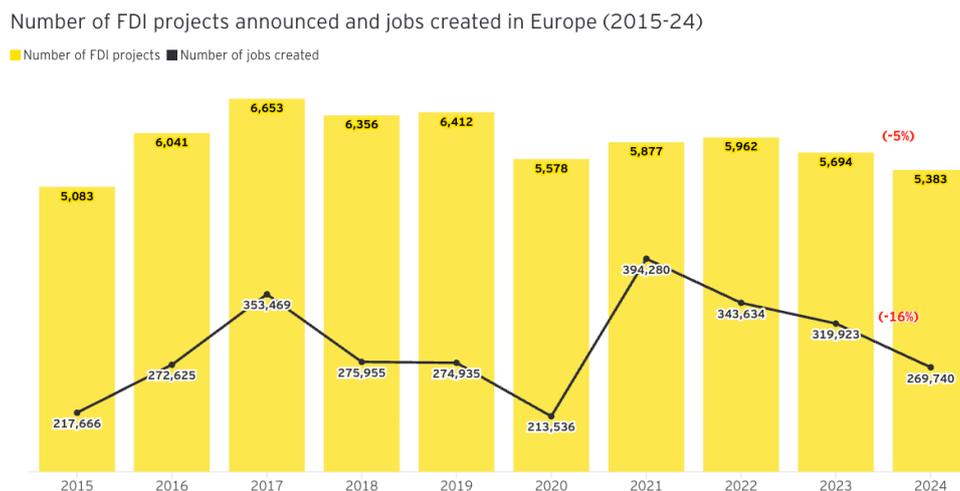


Figure 1. Number of FDI projects announced and jobs created in Europe (2015-2024); Source – EY Europe Attractiveness Survey 2025.

Famke Krumbmüller (EY-Parthenon EMEIA Leader) also stresses the rise of populist movements across Europe and abroad, which poses an additional challenge, potentially leading to more nationalist policies, protectionism, and pressure on governing institutions – all of which heighten unpredictability for international investors. This phenomenon might be one of the reasons why the FDI numbers continue to decline, and it is followed by a newly surged trend of “*friend-shoring*” and “*near-shoring*” when firms are redirecting or are more willing to choose FDI outflows to countries that are more politically allied or just geographically closer. ECB in 2023 reported an over 70% response of European multinationals that they are putting a strong priority on either nearby or politically friendly countries (Grover & Vezina, 2025).

Attracting FDIs is a great aspiration for many developing and established countries for primary (financial) and secondary (skills transfer) grounds. Despite IFDIs’ potential negative effects, in the period where FDI numbers are shrinking, European countries should actively continue looking for new channels and methods of displaying themselves as attractive investment destinations through narratives that drive foreign investors and their decisions.

1.1.4 FDI Drivers & Repellents

Studies show that perceptions and narratives associated with a host country can strongly influence FDI decisions by foreign investors. Dineri et al. (2024) underscored that positive country reputation and well-crafted national narratives can sway investor confidence and capital flows. Mohib & Carroll (2024) name developing nation brand as a pivotal factor in where foreign companies choose to invest.

The connection all along is measured mathematically. The Global Soft Power Index, an international estimation of the indirect power of a country to make an impact on foreign stakeholders, is a questionnaire completed by 172,000 respondents from 101 countries. Their report of 2024 considered the perceptions of business, diplomacy, culture, governance, technology, and sustainability, among others, but also asked respondents about the perceived influence of nations around the world. The researchers of the index reported a moderately-significant variation of 59% in FDI inflows and a country's soft power, while the Brand Finance 'Nation Brand Recommendation' estimation of people's willingness to recommend a country reported a medium-lower 39% variance between the willingness to recommend a country and its factual FDI inflows (Emerging Europe, 2024).

Anholt's Nation Brand Index (NBI) is used as a benchmark as well; it is a large-scale annual perception survey that evaluates how the global public views countries across six key dimensions: exports, governance, tourism, culture, people, and investment (Ipsos, 2023). The scale of NBI is 0-100, although usually countries fall within the 30-80 interval (The Scottish Government, 2025). Lahrech et al. (2020) report that a 1% increase in host country NBI will result in 0.25% increase in FDI, while previously Kalamova & Konrad (2010) measured that a 1 point increase in NBI will result in approximately 27% increase in FDI. The latter paper also emphasized that just as a good image will probably make countries attract FDIs, negative perceptions will act as a barrier to obtaining any investments from abroad.

Foreign investors tend to use a set of different methodologies to assess the investment climate and attractiveness of a target country when considering an investment. Nevertheless, there are no unified investment attractiveness instrument, as the result of many hard (GDP, market size, population) and soft (ease of doing business, sustainability, politics) indicators also being dependant on the specifics of a host nation (Činčikaitė & Meidute-Kavaliauskiene, 2023). Okada (2013) highlights that competing just with a fraction of drivers is not enough, as they also depend on each other and other repellents: just opening markets without the message of it will not be enough, promoting IPAs will be insufficient if investors do not believe in institutional stability, and institutions must provide favourable incentives.

FDI drivers and repellents derive from different origins and are named in many studies, reports, surveys, interviews, and analyses by governments and business analysts. For instance, the Foreign Investors' Council in Latvia (FICIL) praises the government's efforts in targeting specific defence sectors and maintaining stability amid ongoing geopolitical uncertainty (governmental report, FICIL, 2025). In a (scientific) study, Bussy & Zheng (2023) confirm that

rising geopolitical risk deters FDI flows, especially in strategic sectors. GEM (2024) addresses national Entrepreneurial Framework Conditions, Financial Times (business analysis) awards Riga as one of the most attractive investment destinations of Europe because of the lifestyle and human capital (LIAA & business.gov.lv, 2025) while the EY Attractiveness (Survey) builds upon a stable set of FDI attractiveness indicators identified in earlier EY reports and in the international investment literature (EY Europe Attractiveness Survey, 2025).

Although a country's indicators can be categorized as FDI drivers and repellents, there are no such distinct good or bad topics when it comes to FDI attractiveness. For example, high corruption levels in a country are considered a big FDI repellent, but on the other hand, the communication of the same topic but with a different sentiment can drive FDI forward, as Ren (2024) reports that reduced incidence of corruption attracts greater levels of FDI.

A literature analysis was conducted in this thesis using a pool of relevant scientific studies, governmental reports, and business analyses to conclude FDI drivers and repellents as a set of most impactful communication narratives in terms of FDI attractiveness. The results are 11 communication narratives constructed: Price & Tariffs, Supportive Policies & Ease of Doing Business, Innovation in Strategic Industries, Geopolitical Stability, Predictive Politics, Sustainability, Corruption, Talent Pool, Domestic Market, Infrastructure-Location-Connectivity, Quality of Life. The table with narrative supporting arguments found during literature analysis is provided in Appendix 1. This synthesis of literature is a conceptual reduction of the heterogeneous FDI determinants into an analytical narrative framework suitable for analysis using semantic computing methods, such as text embeddings, to further investigate media mentions of countries and how these 11 narratives alter their reputation

1.2 Investment Decision Making

1.2.1 The Process of Investment Decision Making

In multinational enterprises, FDI decisions are typically made by senior management teams and must be approved at executive levels, given their strategic importance, scale of operation, and commitment. However, for an investment decision to go through all the stages, it must get approvals from individuals, emphasising the importance of individual investor decision-making. Liu & Gelsing (2025) underscore that the characteristics and perceptions of

an individual manager heavily influence FDI choices, especially as many firms now grant managers freedom and autonomy to make decisions about the expansion of the company.

Hilary & McLean (2023) describe financial decision-making as an increasingly complex subject. Before making any investments in foreign countries, investors need to assess the potential risks and threats carefully. Investors are familiar with what indicators or narratives should be considered, and they also consider what profits or growth they can expect in the future with a certain foreign investment (Lahrech et al., 2020).

1.2.2 Methods Used in Investment Decision Making

During the middle phases of the investment decision-making process, investors tend to use different methods. For instance, the Delphi method is used to gather expert judgements on political, economic, and market conditions in a target country. The method is a structured, iterative survey technique in which a panel of experts participates in multiple rounds of questionnaires to converge toward a shared judgement or consensus. After each round, participants are provided with anonymised summaries of the group's responses, enabling them to reconsider and refine their own assessments in collective expertise (Twin, 2025).

Real options theory is also figuring amongst popular methods to structure investment decisions, especially where decisions meet high uncertainty. This method treats investment opportunities as analogous to financial options – firms have the option to invest and can alternatively benefit by waiting for better information or staging their investments in parts rather than committing all capital upfront (J. Li & Rugman, 2007; Yang et al., 2024). Investors also rely on statistical reports, and their reports are influenced by ratings like corruption perception index (CPI), country risk assessment (CRA), soft index, and many more.

Nevertheless, Dunning's **OLI** paradigm is the methodology considered a tiebreaker in foreign investment decision-making. According to it, a foreign firm conducts FDI when it:

1. possesses **O**wnership advantages: has unique assets or competencies to leverage
2. finds a favourable **L**ocation advantage abroad: the target country offers specific benefits like market size, skilled labour, or favourable policy
3. prefers **I**nternalization rather than licensing or exporting, doing the activity in-house via FDI is more efficient than contracting it out.

Only if all three O-L-I conditions are met, the FDI is chosen as the course over other alternatives like exporting, finding alliances, or seeking domestic expansion (Gizaw et al.,

2023). A case study of Qatar by Mohib & Carroll (2024) proposed that OLI + NBI together can explain FDI better than either framework alone, as these two cohesively combine static and objective measurements with dynamic and subjective insights. The same study emphasises OLI components in a format that if one of the conditions is missing, FDI is less likely, and alternative solutions are chosen in the following principle:

- O + L, but no I → licensing or joining ventures
- O + I, but no L → domestic expansion
- L + I, but no O → host country might get portfolio investment, not FDI

The OLI components applied for the Baltic States could represent the following:

- O: Investors bring their technology and skills to a host country
- L: The Baltics provide investors with EU access, digital strength, and an educated workforce
- I: Investors will open their own offices/factories in a host country

1.2.3 Behavioural Bias in Investment Decision Making

Investors are also human beings. They make the investment decisions, and despite all the classic economic models assuring that firms make purely rational, profit-maximising FDI decisions, according to behavioural theories, real-world decisions are influenced by bounded rationality, organizational routines, and cognitive biases of individuals. The classical Behavioural Theory of the Firm (Cyert & March, 1963) and Aharoni (1966) first portrayed FDI as a social and iterative decision process rather than a one-off rational calculation.

Pinglu et al. (2021) analyse the behaviour of investors and suggest that they often make deviations from rational options, and investment behaviour deviates on a different scale depending on the type of investors. Real investors do not always possess the same information set, and even when they do, they do not process the available information in the same manner. Bihari et al. (2022) also highlight that traditional finance theories might describe rational decisions (CAPM, utility theory, Markowitz portfolio theory), but in real life, investors are strongly influenced by psychological biases, which can be generalised into two categories:

- Cognitive errors → arise from faulty reasoning or memory shortcuts. Examples: mental accounting, herding, representative bias, and availability bias.
- Emotional biases → arise from feelings, harder to change. Examples: overconfidence, loss aversion, regret aversion.

This study also names the main high-impact biases:

- Overconfidence: investors believe too much in their skill.
- Regret aversion: fear of wrong decisions stops action.
- Loss aversion: losses “hurt” more than equivalent gains.

Pinglu et al. (2021) also mention other usual biases of the herding effect (when people make decisions based on decisions made by the majority) and disposition effect, which is related to regret aversion when an investor is holding assets irrationally long or is selling his assets way too fast. Furthermore, just as many countries are choosing “friend-shoring”, GEM (2024) reports that at least one in two new entrepreneurs identifies sustainable development goals (SDGs) as a priority in 25 out of 33 economies.

1.2.4 Media’s Influence on Investors’ Perceptions

Recent research has shown that foreign investors are under the influence of media narratives when assessing and deciding about a country to invest in, and this effect is amplified in situations of information scarcity or overload. Agarwal et al. (2024) argue that the strong impact on investment flows by negative press coverage occurs when interpreting adverse events. Furthermore, a lot of information about the important indicators is now publicly available, making it easy for investors to compare economies and find the most attractive option (Lahrech et al., 2020). Likewise, the industry analysis by Mercury Global (2025) describes that media acts as a “primary lens” into the host country for foreign investments.

While discussing the role of media in the stock market, Tetlock (2005) positioned media sentiment as a factor that influences investment. X. Li et al. (2025) insist that media sentiment about a country actively shapes investor beliefs rather than merely reflecting them; an analysis of global investment funds (2015-2025) found that negative media coverage – even if exaggerated or hostile – leads to reduced portfolio allocations to the affected country. Arcuri et al. (2023) interestingly found that negative media sentiment had a strong influence on investment stocks, while positive media sentiment had only a weak positive effect, signalling that investors react more strongly to unfavourable news and that it is way harder to build a positive image.

The role of social media in post-COVID lives also dictates the findings by Ali Al Atoom et al. (2021) that investors spend increasingly more time online, with almost two-thirds spending 2+ hours a day online, and when investors increased their use of social media, the

likelihood that it shaped their choices rose dramatically. Hasanudin (2023) shares similar findings and stresses the importance of this phenomenon among the millennial age investors.

Finally, some studies have been conducted on investor activity by monitoring Google search volume (GSV): Ayala et al. (2024) propose using search engine activity data as a direct measure of investor attention and reference GSV monitoring applications to improve forecasting for stock market management, as weekly frequencies of GSV can suggest investors' interest in a selective search. Da et al. (2009), who introduced the GSV, presented it as a novel and direct proxy for investors' attention, which was also proven by the possibilities to predict short-term stock price increases over the following two weeks, followed by eventual price reversals. This theory was recently challenged by deHaan et al. (2025) as many of the searches analysed appeared unrelated to investing, and that this error can easily generate false-positive or false-negative results in usual settings.

1.3 Search Habits and Media Influence Theory

1.3.1 Passive and Active Media Exposure Components

To this point, the FMT theory analysis concluded that investors tend to make decisions that are not rational, and their decisions are influenced by the media they consume. Each day, investors get a dose of passive media exposure by watching news channels on television, listening to podcasts, consuming advertisements, scrolling through their mobile phone, or just talking to people – investors, as all people, each day are bombarded with tons of new information, which means they are passively and unintentionally exposed to media. However, when they are in actual need to gain some information, they have an intent and proactively dig into specific sources of information. This can be called the active media exposure components. In the following sections, both components will be analysed in more detail.

1.3.2 Passive Media Exposure and Agenda-Setting Function

Kwak et al. (2018) write that passive media exposure can be summed up to news coverage, which is what you encounter when you consume news outlets (TV, portals, online papers) without actively choosing the topic. The passive media has an agenda-setting role: it puts topics in front of audiences, even if they were not looking for it. For instance, if 4 U.S. soldiers go missing in Lithuania during a military exercise, millions of readers will see it, even

if they were never interested in Lithuania before. The success of agenda-setting theory was analysed by McCombs (2005b), where the psychological mechanisms, especially “need for orientation” (relevance + uncertainty), which determine how susceptible people are to media influence. The study also showed how media influence works at three levels:

- First-level agenda-setting → Media tell us what to think about (issues). Does not tell people what to think, but what to think about.
- Second-level agenda-setting → Media tell us how to think about those issues.
- Third-level agenda-setting → Media influence the connections we make between issues and attributes in our minds.

Another interesting instance of passive media exposure about Lithuania happened in September 2025 when President Donald Trump was addressing the United Nations General Assembly in a speech. During a speech, the cameras several times turned to the First Lady, Melania Trump, who was sitting, as it appeared, next to a chair with a “Lithuania” label on it:



Figure 2. Screenshot from a video by (ABC News YouTube Channel, 2025)

Although Lithuania was not mentioned during the speech, millions of viewers around the world were exposed to the Lithuania entity, and it got people curious about what Lithuania is and what its relation is to Melania Trump. A Reddit post from r/BalticStates (2025) called “*Melania Trump representing Lithuania? o_O*” was actively discussing this incident, with commentators trying to understand her ties with Lithuania and her immediate stance on the Russia-Ukraine war. Although this exposure of Lithuania from a video frame did not carry any FDI-narratives, it is an incremental media appearance where people were left curiously

wondering that “this country, Lithuania, is part of the global conversation”, pairing Lithuania with high-profile global dynamics.

1.3.3 Studies and Importance of Active Media Exposure

While discussing the Google search volume index (GSVI) attention in the stock market, Ayala et al. (2024) stress that even during a targeted passive exposure (like reading economic literature), investors cannot process all available information, so upon urge, they do very specific and targeted searches that represent their selective focus. The analysis of investors' intended interest is widely used in stock markets (reported by Da et al. (2009) on a general basis and by X. Li et al. (2015) on crude oil prices).

Kwak et al. (2018) then state that intentional search of information by the public does not always overlap with the passive exposure of media. For instance, people can be googling about Lithuania and Melania Trump and find no media coverage on it. Therefore, the Granger causality dictates that just as passive media intake can influence active search, the surges in active search interest might also influence the appearance of new coverage by media. Authors also stress that the public reacts more to “soft news” (travel, sports, culture) during active search, while passive media exposure emphasizes more “hard news” (politics, security). This closed loop of attention-exposure exchange can be a step into predictive analytics (exactly what analysts are trying to do with GSV and stock market prices). Also, based on this framework, the study can expect active component indicators to show stronger alignment with investment-related actions than just passive media exposure components alone.

1.3.4 Usage of Search Engines and AI Tools by Investors

In terms of the traditional search engines, Google has no real competition in the field, retaining the market share at 90%+ during the last 10 years (Statista, 2025). And although on May 8th, 2025, the CEO of OpenAI Sam Altman stated that with the advancements of LLM chatbots he does not use Google anymore (Okernwa, 2025), he himself admitted, that it will hardly replace Google as a primary search engine which can evidentially be supported by First Page Sage, (2025) that reported Google having 100 times more monthly active users than ChatGPT and holding a majority in share of total digital queries (81.6% vs. 9.0%).

This dynamic will hardly lean in the direction of ChatGPT any time soon, as Google has integrated its frontier LLM model, Gemini, into its search engine result page, while at the beginning of November 2025, it was announced that ChatGPT will be restricted from giving

medical, legal, and financial advice due to liability fears (FE News Desk, 2025). At the firm level of relying on AI solutions, Bennett-Lovsey (2024) supports the concerns of using AI solutions for investment seeking, as distortions were witnessed with study participants in their work accountability and risk tolerance when using AI outputs, leading to either abdication of responsibility or excessive reliance on the machine. Hong (2025), however, still argues that the lack of information about the smaller and more specific entities may increasingly turn investors to AI chatbots that can aggregate information from different, lesser-known sources quicker.

AI solutions are currently heavily used in deep finance. (Huang et al. (2020) reported the usage of neural networks for banking analysis: feedforward neural network (FFN) and multilayer perceptron (MLP) is widely used for cross-sectional data (exchange rates, credit risks); long short-term memory network (LSTM) and recurrent neural network (RNN) for time-series forecasting (stock markets, volatility), reinforcement learning (RL) for trading & portfolio optimization (decision-making and self-learning) and convolutional neural network (CNN) for high-dimensional data (news, images, multivariable finance). Agrawal et al. (2025) use the general name “LLMs” and report their usage in trading, portfolio management, financial risk modelling, text mining, and advisory services. This study also provides a list of domain-tuned LLMs showing better classification accuracy than general models: BloombergGPT, FinT5, FinGPT, Instruct-FinGPT, and FinLLaMA.

Yet Buczynski et al. (2021) saw AI as an assistant that will hardly replace humans, not as a fully autonomous investor. They argue that although AI gets crazy good results in lab papers, in real markets, AI funds that use similar methods do badly and lose to traditional stock indexes. This perspective, 4 years later, can appear as short-sighted, especially with the latest trend of AI agents that can imitate an investor. However, just in the autumn of 2025, ChatGPT was reportedly (LinkedIn post by Oscar Goyvaerts, 2025) tasked to do crypto trading with a budget of \$10,000 and lost the majority of it in no time.

Finally, as Google will very likely retain its lion’s share of the search engine market in the upcoming years, the investors will also be increasingly using different LLMs in one or another way to collect active, intended, and targeted exposure of media data. Countries that are interested in their country image should take proactive steps to ensure that when foreign investors search for their country, they will find the most important information in a convenient way, the reputation of the country will appear crystal clear, and the diversity of results will be intriguing to encourage them to analyse more.

The search engine optimization (SEO) has been a strong online marketing strategy studied and utilised by businesses almost from the very beginning of first search engines in the late 1990s (Bezhovski, 2015), its main strategies revolve around optimising content with technical details, specific keywords and backlinks so that it appears higher in the search engine result page (Shahzad et al., 2020). Generative engine optimization (GEO), on the other hand, is a recent methodology; Aggarwal et al. (2024) report that it can enhance an entity’s visibility in search engines by ~40%. This method aims at preparing content so that it is more likely to be selected, cited, or accurately summarised by AI-driven generative systems. It involves optimising structural coherence, linguistic clarity, factual precision, and contextual relevance in line with how large language models process and prioritise information (Hagemann, 2025).

1.4 FDI Landscape in the Baltic States

1.4.1 Why is FDI Important to the Baltic States

The core of methodological research of this study revolves around the Baltic States and their FDI attractiveness from the standpoint of foreign investors. In their thesis about Lithuania’s economy overview of the past 100 years, Klimantas (2025) sees the Baltic states today as “small open economies and thriving democracies”, pointing that that by 2023 their GDP per capita is still ~63-77% of the Western core as it is still catch-up after the occupation years and difficult 1990s.

FDI inflows are very important for the further development of these countries, both in need of a financial boost and, as per European Bank (2025), Baltic IFDI is particularly important as “a channel for technological transfers” and its shortfall could mean the risk of Baltic States falling into a middle-income trap. Yeboah (2025) sees risks as well, as compared to larger economies, the Baltic States perceived geopolitical risks, small domestic market size, and less developed infrastructure limit their ability to attract substantial FDI.

1.4.2 Baltic States in FDI Numbers

Table 1. GDP, GDP per capita, and net FDI inflows (as % of GDP) of Baltic States for 5 years (2020-2024).

Country	Year	GDP (USD, bn)	GDP per capita (USD, k)	FDI inflows net (% of GDP)
Lithuania	2024	84.9	19.1	4.2%
Latvia		43.5	17	3.5%
Estonia		42.8	20	-8.1%
Lithuania		79.8	18.7	4.8%

Latvia	2023	42.6	16.9	4%
Estonia		41.3	20.1	13%
Lithuania	2022	71	18.9	3.4%
Latvia		38	16.4	3.2%
Estonia	2021	38.4	21.1	4.9%
Lithuania		67	18.6	3.7%
Latvia	2020	38.2	16.1	9.8%
Estonia		37.2	21.4	20.3%
Lithuania	2020	57.4	17.4	7.9%
Latvia		33.4	14.9	2.8%
Estonia	31.8	19.9	12%	

The source of data for Table 1 was the industrial reports by Trading Economics (2025)

In terms of GDP per capita, Estonia has remained the strongest economy during this period, with Lithuania narrowing the gap between first places, and Latvia staying in 3rd place. Lithuania may overcome Estonia for the 1st place soon, but in 2025, most people imagine the quality of economics in that order: Estonia, Lithuania, Latvia. However, it was not always like this, and the numbers in recent years are rather a result of how countries managed to overcome the difficult 1990s after the collapse of the Soviet Union. Back then, Estonia did not have that many trade ties with Russia, unlike Lithuania and Latvia, which both had big industrial branches opened that were created to work with the Soviet Union. Klimantas (2025) comments on the situation as “*who would like to buy Soviet-Latvian buses or Lithuanian TVs when you have companies like Volkswagen and Panasonic as your competitors in the West*”. The study also estimated GDP numbers for the previous 100 years in each of Baltic countries:

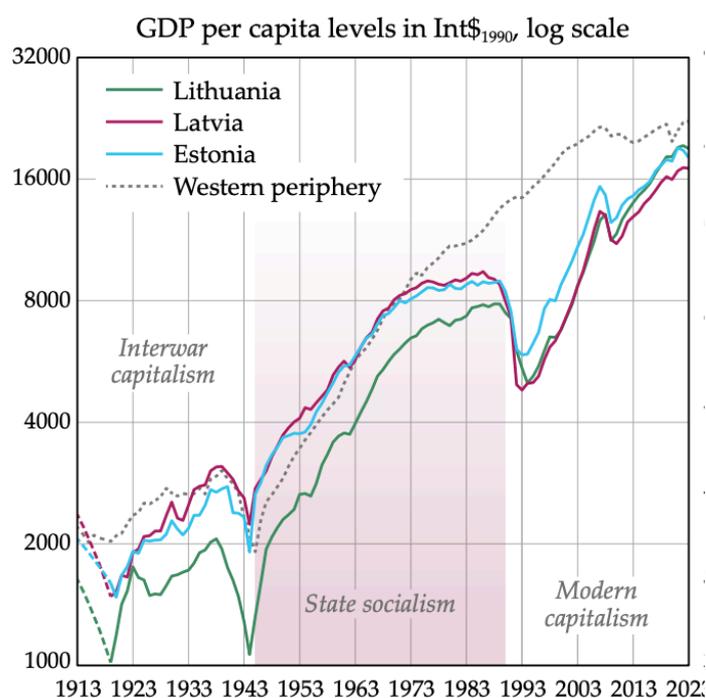


Figure 3. GDP per Capita levels of Baltic States over the last 100+ years, source – (Klimantas, 2025)

The graph in Figure 3 shows how Lithuania was quite behind its Baltic neighbours during the Soviet era, tied with Latvia after the collapse of the Union (reduced population also played a factor), and gradually started to approach the top position after the 2008 crisis. In terms of FDI numbers, Estonia dominates the region even stronger. During the 2020-2023 period, its GDP percentage of FDI net inflows was times bigger than the percentages of Baltic neighbours, and this displays a clear view of how Estonia managed to build a favourable investment reputation and grow in GDP way sooner than other Baltic states did.

Interestingly, however, in 2024, Estonia's net FDI inflows were negative (-8.1% of GDP). This signals that more investment capital left Estonia than entered it (UK Department for Business and Trade, 2025). One common cause for this rare situation is foreign disinvestment – for example, if a multinational company sells off an Estonian subsidiary or reduces its equity, or if it repatriates retained earnings or loan funds back to its parent company abroad. This means that some multinationals likely paused or cancelled investment projects. It can be tied down to the decision of Ericsson to cancel a planned €155 million factory investment, citing the challenging market and economic environment (Pärli, 2024). Such cancellations mean anticipated inflows never materialized, contributing to the net FDI shortfall. Another reason for this tendency can be connected to the fact that in 2024, the Estonian government announced an increase in the tax rate on distributed profits starting in 2025; as a result, many foreign-owned companies in Estonia rushed out to pay dividends in late 2024 just to avoid losing money after the higher taxes were officially introduced (Rell, 2025). As Estonian investment executive, Viljar Arakas, observed, foreign parent companies tend to pull funds out of peripheral markets to stabilize their home base in hard times, and noted that *“the Baltics are a region where foreign capital arrives last and leaves first”*.

FDI outflows (Baltic investments abroad) have also grown during 2020–2024, though they remain smaller than inflows. Baltic companies increasingly expand regionally and globally, often investing in each other's countries. For example, at the end of 2022, Lithuanian firms had €10.6 billion invested abroad, with significant outflows to the United States (40% of Lithuania's outward FDI stock) and to neighbouring Latvia and Estonia (Lithuania's Official Statistics Portal, 2023). Estonian outward FDI has likewise risen – by 2022, Estonian investment in the U.S. (about \$485 million) even slightly exceeded U.S. OFDI into Estonia (US International Trade Administration, 2024) – and according to Centrum Balticum (2025), much of Estonia's and Latvia's outward FDI targets other Baltic states.

1.4.3 Recent FDI projects in Baltic States

Lloyds Bank (2025) reports that by the end of 2023, around 80-85% of FDI stock in each of the Baltic States came from EU countries. Nordic investors play a crucial role here: Sweden accounts for ~30% of FDI stock in Latvia, while Finland (~20% share) and Sweden (~11% share) together have a large share in Estonia. Interestingly, though, the single largest investor country in Estonia is Luxembourg (~24% share). Lithuania's strategic relationships with Germany paid off, as Germany now is the country's largest foreign investor with ~19% share, followed by Sweden (~11% share), and Estonia (~10% share).

Foreign investors had the highest FDI stock share of 30% in Estonia's financial & insurance sector, followed by real estate (~18% share) and professional/technical/scientific services (~16% share) sectors. Lithuania, similarly, has the highest share in the finance & insurance sector (~35% share), and it is followed by the manufacturing (~17% share) and trade sectors (~10% share). Latvia's biggest sector for FDI is professional/technical/scientific services (~22% share), followed by financial & insurance (~16% share) and real estate, manufacturing, and trade sectors (all latter three have ~13% share each).

Latvia, during the period of 2020-2024, managed to peak at 9.8% of GDP, consisting of net IFDI in 2021. 32 investment projects were facilitated that year with a total investment of ~€643 million. The biggest deal was made with a wood processing mega-project that brought €180 million alone, while the investment from Lithuania into the "Syfud" food processing plant helped create 800 jobs alone. Other deals with foreign investors included Webhelp (Sweden), Norplast (Norway), Inzpire.me (Norway), Pulsar Optics (Lithuania), and others, with Norway admitted as the largest source of FDI in Latvia in 2021. It is also reported that the Latvian government's initiative of "Green Channel," which was launched in 2021 to streamline big projects, also facilitated investments worth over €100 million in its first year (LIAA, 2021).

Lithuania, during the period of 2020-2024, managed to peak at 7.9% of GDP, consisting of net IFDI in 2020. The biggest sector that attracted the most FDI was professional, scientific & technical services, with FDI inflows of €136 million among investments into expansion of Termo Fisher Scientific (US), Biogen's Entry (US), and Hollister Incorporated (US). The expansion case of Termo Fisher Scientific was commented on by the company's managing director, Algimantas Markauskas, who stated that the availability of qualified candidates was a decisive factor in the company's decision (BM.GE, 2021; Irwin-Hunt, 2023).

1.5 Country's Reputation Management

1.5.1 European Countries That Have Avoided FDI Drop

In modern developed economies, countries compete against each other in terms of their perceived reputation to attract tourists, talent, and especially investors (Murphy, 2022). While big countries compete for visibility, smaller countries can often be overlooked by investors, so it is both important to gain visibility through positive stories using passive media exposure, but also to be prepared when a hooked investor will come knocking on search engines.

During the time when FDI is slowing in Europe, a few countries like Germany, Poland, Spain, Switzerland, and Denmark so far managed to avoid any harm from this phenomenon. The named countries have not been passive FDI recipients but actively positioned themselves within critical supply chains and proactively shaped their international economic image.

Spain, for example, did receive a drop in FDI, but only a minor one. La Moncloa (2024) speculates that the resilience to European FDI dynamics derives from a country's diverse economy (telecoms, manufacturing, renewable energy). Spain's investment promotion agency (ICEX) actively targets sectors like ICT and clean energy, while regulatory reforms – e.g., liberalising land and energy markets – have also improved the business climate.

Lloyds Bank (2025) provides that in 2023, Denmark attracted about \$8.7 billion in FDI, roughly +13% over 2022. Denmark's stable, well-governed economy and strong innovation ecosystem make it attractive. Key sectors include renewable energy (offshore wind), life sciences, and ICT. Denmark has aggressively advanced digitalisation (e-government, fintech) and green transition (electric grids, hydrogen) – efforts that draw foreign capital. A skilled, English-proficient workforce and easy business set-up are also cited.

1.5.2 Countries are Using Benchmarking Indices

Given the connection between a country's image and its chances to attract FDI, countries should be totally aware of how their country is perceived and positioned among other countries. This benchmarking of different criteria is especially important for smaller countries like the Baltics, as according to UNCTAD's digital divide narratives, technology and access to it are concentrated in a very small number of hubs, and there is a big gap between these top clusters and the rest of the world (UNCTAD, 2025). Small economies must actively manage and market their digital reputation to compete for a thin, concentrated pool of digital projects.

Činčikaitė & Meidute-Kavaliauskiene (2023) utilized a TOPSIS approach to assess the investment attractiveness of the Baltic States, using many hard parameters: population, market size, GDP per capita, unemployment, education, etc. The authors, however, mentioned that there is no unified investment attractiveness instrument in the world, considering the number of different factors influencing it. Yet, this does not stop governmental organisations or independent researchers from analysing the investment attractiveness using their own methodology. The following table includes a summarisation of several different ratings that are widely used and include the Baltic States.

Table 2. A collection of popular investment attractiveness-related research.

Name	Description	Criteria	Performance of the Baltic States
GEM Global Report, (2025)	Annual global survey of entrepreneurship (adult population and expert surveys) assessing entrepreneurial activity and ecosystem. GEM reports also include the National Entrepreneurship Context Index (NECI).	NECI criteria is based on 13 Entrepreneurial Framework Conditions: Entrepreneurial finance, Government policy (support & relevance), Government policy (taxes & bureaucracy), Government entrepreneurship programs, Entrepreneurship education (school level), Entrepreneurship education (post-school level), R&D transfer, Commercial and professional infrastructure, Internal market dynamics, Internal market burdens, Physical infrastructure, Social and cultural norms, Entrepreneurial entry regulation	In NECI: <ul style="list-style-type: none"> • Estonia is 12th out of 55 countries • Latvia is 14th out of 55 countries • Lithuania is 2nd out of 55 countries
FICIL Sentiment Index (2024)	FICIL (Latvian Foreign Investors Council) annual survey (with SSE Riga/RBS) of foreign investors' sentiment on the Baltic investment climate. In 2024, for the first time it included other Baltic States (not just Latvia).	Survey questions on key investment-environment factors: workforce/talent availability, bureaucracy/regulatory efficiency, digitalisation and innovation capacity, Baltic regional cooperation, and geopolitical/security environment	No clear ratings, but Estonia is cited as region's digital leader, Latvia noted for competitive labour costs and infrastructure, Lithuania recognized for ambitions, risk-taking business culture.
EY Europe Attractiveness Survey (2025)	Annual EY report (European Investment Monitor) on FDI and investor sentiment across Europe (latest covers 2024 projects). It combines hard data on new FDI projects	Number of new foreign investment projects and jobs created (quantitative) and surveys of executives on motives/barriers (qualitative)	Overall ratings are not that clear, but Latvia is rated as the best Baltic performer in 2024 with strong quantitative FDI numbers of 33 new projects and 1937

	and jobs with a survey of executives' perceptions.		new jobs. Estonia and Lithuania could not match it.
Brand Finance Global Soft Power Index (2025)	Annual ranking (193 countries) of national "soft power" – a country's international reputation and attractiveness – based on a large global survey (~170K respondents)	Scores across 8 pillars (such as Governance, Culture & Heritage, Business & Trade, Education & Science, Digital/Innovation etc.) derived from public perceptions and metrics.	<ul style="list-style-type: none"> • Estonia is 65th out of 193 countries • Latvia is 76th out of 193 countries • Lithuania is 70th out of 193 countries <p>All three states have dropped several positions from 2024.</p>
Emerging Europe (2024)	Investment Promotion Report" by Emerging Europe (2024 edition) ranks national Investment Promotion Agencies (IPAs) in Emerging Europe by effectiveness in attracting FDI	IPAs are scored in five categories: <ol style="list-style-type: none"> 1. Validity of Information 2. Support & Community Building 3. Online Presence & Ease of Contact 4. Innovation & Creativity 5. Responsiveness to Developments. 	Out of 23 "Emerging Europe" countries, Baltics took the podium with Latvia ranked 1 st , followed by Estonia in 2 nd and Lithuania in 3 rd .
European innovation scoreboard (2025)	EU-commission annual report comparing innovation performance of EU countries (and some neighbours)	32 indicators across four dimensions: <ol style="list-style-type: none"> 1. Framework conditions (education, connectivity, R&D systems), 2. Investments (public/private R&D spend) 3. Innovation activities (firm innovation, patents, ICT adoption, etc.) 4. Impacts (employment in knowledge sectors, high-tech exports) 	<ul style="list-style-type: none"> • Estonia is 11th out of 27 countries • Latvia is 25th out of 27 countries • Lithuania is 18th out of 27 countries
IMD World Competitiveness Ranking (2025)	Annual competitiveness ranking by IMD (World Competitiveness Center)	Based on 256 indicators (factual data + surveys) grouped in 4 factors: <ol style="list-style-type: none"> 1. Economic Performance 2. Government Efficiency 3. Business Efficiency 4. Infrastructure 	<ul style="list-style-type: none"> • Estonia is 33rd out of 69 countries • Latvia is 38th out of 69 countries • Lithuania is 21st out of 69 countries

The one shared issue with these reports from the perspective of a host country is their frequency. If such reports are the only source of information for countries like Baltics, their reaction to the reported information can be lagging, and by the time the results of these reports are published, perceptions may already have changed. Many of them are also based on

expensive surveys that further delay publication. Investors themselves operate in real time: markets, Google searches, and AI chatbots give them instant signals. The issue appears quite old, as Holland (2006), who reported investors' views on public financial information for investment decisions, mentioned that investors saw publicly available reports lagging.

1.5.3 Importance of Real-Time Monitoring Amid Potential Speed of Reputational Crises

As reported by Kwak et al. (2018), small states like Lithuania, Latvia, or Estonia might attract disproportionate search attention relative to their media visibility, making the active search component very important and volatile. Negative FDI narratives (e.g., corruption scandals, security/political concerns) can damage a country's reputation in days, and if governments only rely on lagging reports, they can miss the chance to react to certain problems.

The Baltic States have already had several instances where a reputational crisis might have influenced an FDI decision to collapse. An article from The Baltic Times (2011) writes that Latvia's international image has suffered from widespread corruption and a disorderly business environment which led to German investors pulling out of multiple investment projects in Latvia – including a power plant in Liepaja, a high-tech institute, an exhibition center, an aluminium plant, and a medical diagnostics center. Germany instead wrote a letter to Latvia detailing 10 problems that are causing a bad investment climate in Latvia. Back in 2011, this case was commented on through investors losing confidence in the country, and “*as if Latvia quit the EU*”. Estonian reputation was damaged through the Danske Bank scandal, when the bank's Estonian branch allegedly laundered around 200 billion euros in the period 2007-2015 (Bjerregaard & Kirchmaier, 2019), and the Baltic FDI drop in the following years can be associated with this scandal.

Reuters (2013) published that a U.S. energy giant was the sole bidder for a shale gas reserves project in Lithuania but withdrew from the project just weeks into it because of “*significant changes to the fiscal, legislative and regulatory climate*”. Lithuanian officials admitted there was a “lack of regulatory clarity,” as Parliament was still debating law amendments even after the tender. In 2011, Lithuania's record at the time, the FDI deal of €5 billion collapsed (Socor, 2012). Back then, Japanese firm Hitachi had envisioned a project with Visaginas NPP, but the plan faced scepticism from Lithuania's national referendum, and Hitachi pulled out because of the native public distrust. The final instance with Lithuania is a rather positive one – Lithuania suddenly gained loads of visibility and trust from foreign firms because of its stance on Taiwan and the cooperation with Teltonika (Sytas, 2022).

1.5.4 Bad Image Versus Weak Image

According to Berger et al. (2010), in communication, a negative image or a bad reputation suggests the audience's widely unfavourable perception of a particular entity (a country, an organisation, brand, person, etc.), and numerous studies have reported the negative consequences an entity can experience that will be caused by a bad image. In marketing and PR, such negative publicity tends to lead to declines in public support, trust, and economic outcomes. And beyond economic effects, a bad image can be difficult to repair – negative perceptions hold and require a lengthy and persistent effort to overturn them.

Image repair theory (Benoit, 1997) further expands that organisations facing a reputation crisis must first launch strategic communication with a target of neutralising the negative tone, and only after that, start building blocks that should turn into a positive future image, which can be found true even in 2025, as repeated by Fiveable (2025).

The SDG Communicator (2024) recommends firms not only have consistent messaging but also to be proactive in narratives, not wait to be asked, and exercise pre-crisis planning. The same report also recommends solving crises while emphasising problem-solving: “*frame communications around what is being done to help people and businesses, rather than dwelling on blame*”. If being proactive did not prevent a crisis, it is important to know how to quickly react to one, as addressing the issue first often reduces rumour damage. A successfully handled crisis can even become an opportunity to highlight reforms and accountability.

An instance from Iceland includes a short volcanic ash crisis response from the country's government back in 2010. The Icelandic government launched a quick tourism and nation-branding campaign, “*Inspired by Iceland*,” that appeared in playful forms and earned such a big media popularity that the campaign was extended and became Iceland's permanent national brand (Chandler Institute of Governance, 2022).

Communication science also finds that visibility is enhanced by a bad image, while in some rare cases, this awareness can even be leveraged to a positive side. Berger et al. (2010) describe this situation using a cliché, “*there is no such thing as bad publicity*,” the main argument being that negative effects at least increase public awareness and interest, sometimes yielding unexpected benefits. A great example can be taken from a satirical film “Borat” (2006), which, on one hand, mocked Kazakhstan to the point that the film was banned in that country, but it surprisingly also resulted in a 300% increase in inquiries about the country, and therefore it has put Kazakhstan “on the map”. Yes, having a bad image creates a barrier that

you first must neutralise, but having no image at all means that an entity is largely unknown. Communication science further argues that having no image is ultimately a damaging problem, as such a country will likely be left behind in the competition for attention, resources, and influence. Zöllner (2019) notes that in a saturated media environment, a country with no image fails at passive exposure and therefore it never features in the subconscious mind to be considered as an investing or travelling destination. Finally, an information vacuum invites external definition, meaning that if entities do not actively manage their image, others will fill in the blanks (van Ham, 2008). The Borat movie did increase global interest in Kazakhstan, but the latter, instead of using it as a campaign chance, did not accept the movie, and Borat's perception of Kazakhstan partially remains to this day, as it fills in the information pool.

A weak country's image is also a perfect environment for misinformation spread. Arcuri et al. (2023) noticed that false negative news can strongly affect stock prices in a short time; meanwhile, Mroczek-Dąbrowska et al. (2024) showed that new forms of disinformation (like deepfake videos and orchestrated "*false flag*" events) can strongly shift a country's perceived investment attractiveness. For instance, in Canada, a survey in 2017 found that Canadians strongly overestimated the IFDI share from China, which led to an opposing "Chinese buyouts" narrative (X. Li, 2021). When researchers provided respondents with corrected information (that China's share was 3% and not 35%), support for Chinese FDI strongly improved, and it demonstrated how correcting false narratives can partially restore investors' and public confidence.

The ultimate problem in terms of false narratives, however, is the cases of conscious disinformation. Post-Soviet countries often find themselves under Russia's disinformation umbrella, and although it is a wider problem, some of the disinformation statements can also cause damage to FDI narratives. Latvia, for instance, was framed as a failed state by Russia's channels, claiming its politicians are just incapable of governing (Balodis, 2020). Another example can be taken from February 2025, when the Baltic countries disconnected from the BRELL power grid and Russia launched a disinformation attack on Baltics, saying that the electricity prices in the region had increased several times and that outages were happening:

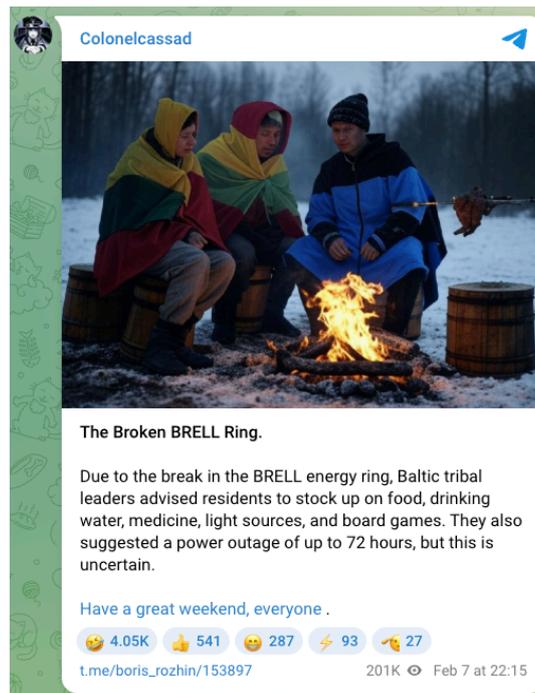


Figure 4. Screenshot of (Telegram post from boris_rozhin channel, 2025)

A bad image can damage a country, but a weak image can prevent a country from being noticed at all or attract external definition that can overtake the control of the country's image for a long period of time. To fight attempts at filling image voids on purpose by unfriendly countries, the Baltic States must find responsible organisations to strengthen their own narrative stance.

1.6 Proposed Solution for the IPAs

1.6.1 Responsibilities of IPAs

Investment promotion agencies are the organisations operating in most of developed countries and that are responsible for promoting the country and connecting domestic and foreign investors with businesses and specialists in a host country. IPAs are the primary organisations to take care of the country's image and general FDI attraction. IPAs are crucial organisations for smaller economy countries that are highly reliant on money coming from abroad, but even in advanced economies, Yeboah (2025) found a significant positive effect of well-operating investment promotion agencies on FDI attraction. The success of IPAs consists of many different variables, including the quality of professionals representing the countries, as well as the methods and tools used by the FDIs. The report by OECD (2018) expresses that investment promotion agencies are working for governments, and the latter also uses IPAs to

correct information asymmetries: foreign investors often lack reliable knowledge about costs, regulations, partners, or risks in a host economy. The report also generalises that investment promotion agencies are designed to fill information gaps and build trust.

IPAs explicitly devote resources to shaping national image. A classic World Bank study (Morisset & Andrews-Johnson, 2004) analysed the effectiveness of IPAs on attracting FDI. It defined image building as creating “the perception of a country as an attractive site for international investment,” through targeted advertising, PR events, and cultivating favourable media stories. Meanwhile, a modern industry report by Mercury Global (2025) names “*Monitor and adapt*” among five most important media strategy steps to attract more FDI, together with other steps such as “*Develop a robust digital ecosystem*”, “*Cultivate strong media relationships*”, “*Invest in data-driven content and paid media*” and “*Showcase success stories and testimonials*”. The “*Monitor and adapt*” step is described as follows:

1. Media Monitoring: Continuously track media mentions and sentiment about the location.
2. Performance Analytics: Analyse website traffic, social media engagement, and lead generation metrics to assess the effectiveness of media strategies.
3. Agile Strategy: Be prepared to adapt media messages and channels based on market trends, investor feedback, and evolving geopolitical or economic landscapes.

The report by OECD (2025) provides insights that foreign investment promotion is the main duty of 37 IPAs analysed, but only 3 of them do not take on other mandates. Besides IFDI promotion, 62% of IPAs also handles export promotion, 59% of them is taking care of regional development, 57% undertake innovation promotion and 35% are also responsible of domestic investment, there are other mandates as well and the amount and the spectra of IPAs responsibilities have grown from average 4.8 mandates to 5.4 in the last 8 years, suggesting that IPAs are becoming more relevant and carrying a heavier and more diverse workload. However, the evolution of mandates has not been transmitted to an increase in budgets. Applied inflation instruments, the budgets dedicated to investment promotion fell 22% during the last 6 years, resulting in fewer resources and tools available, which can come at a cost as the FDI numbers are slowing. Unsurprisingly, only a quarter of the OECD IPAs interviewed believe they have enough resources to fully deliver on their mission.

The report also provides insights that the OECD countries' budget for 2025 is estimated to be \$190.91 million, out of which \$38.51 million (~20%) is expected to be spent on

investment promotion/facilitation, signalling the potentially approachable market size for for FDI attraction. The full newest report “Mapping of Investment Promotion Agencies in OECD Countries” is to be released in 2026, but the preliminary findings encourage countries to do scenario-planning and foresight exercises, which can help agencies anticipate shocks and explore multiple possible future possibilities.

1.6.2 Current State of Baltic IPAs

Each of the Baltic states has a national investment promotion agency that differs in size and the functions it is responsible for. According to OECD (2025b):

- Estonian IPA “Estonian Business and Innovation agency” reportedly has 11 mandates with a personnel of 420 people and is categorised as “large generalist” (large and wide-ranging).
- Latvian IPA “LIAA” reportedly has eight mandates with a personnel of 277 people and is categorised as “large generalist” (large and wide-ranging).
- Lithuanian IPA “Invest Lithuania” reportedly has five mandates with a personnel of 120 people and is categorised as “small specialist” (small but focused).

The IPAs of Baltic states are qualitative institutions, and this can be confirmed by the fact that Baltic IPAs have been ranked among the five best IPAs of the “emerging Europe region” (22 countries) in every of the past 5 years, while all 3 made the podium in 2024 (Emerging Europe, 2024). Latvia’s “LIAA” made a big jump and was ranked first last year with the best ratings in categories “*validity of information*” and “*support and community building*”. Estonia’s IPA was ranked second after being first during a four-year (2020-2023) run, this year, scoring the highest in “*innovation and creativity*” and “*response to current developments*” categories. “Invest Lithuania” was awarded bronze after always being ranked second in the 2020-2023 period, while winning the individual category “online presence and ease of use” in 2024.

As good an achievement as topping the “Emerging Europe” charts is by Baltic States, there is still a long road to the global elite, as analysed by other ratings (Table 2). Mandates are growing, most IPAs believe the budgets are not sufficient, and as recorded by UNCTAD (2025) the structural issues are also present, as only ~20% of developing countries' IPAs are directly involved in crafting the digital strategies for future investment promotion; most of the IPAs are used just as implementation tools or as advocates. IPAs could get more involved in digital strategy design if they could bring better insights into foreign investors’ perceptions.

According to an article by Emerging Europe (2024), it is not only the perceived investment attractiveness that is relevant for FDI, but there are also more factors participating: policies, infrastructure, as well as a nation's brand – the latter can be easily overlooked by IPAs as well as falling beyond their traditional definition of mandates. National IPAs must expand the area of managing the country's imaging, go beyond FDI topics, and participate in digital strategy planning as well as the execution. In other words, IPAs should look at the image of the entire country as a whole, and for this they need new solutions as yearly reports are unsuitable for reacting to reputation shifts.

1.6.3 OSINT Solution for Country's FDI Branding

The solution for IPAs proposed in this research is a deeptech solution that is meant to monitor in real-time the perceptions about the Baltic States in foreign media's passive and active exposure components to understand the image of Baltics in foreign media generally and in FDI-narratives. The system would collect media data from a selected pool of foreign sources and analyse the narratives presented in that media using an AI text analysis solution, which is based on the technology of text embeddings. The solution would not only tell the perceptions of the Baltics but also alert about reputational shifts and unfavourable mentions.

The usage of AI in finance and invest-tech is growing. Several popular artificial intelligence solutions were picked that could potentially monitor perceptions about the image of countries, as well as for comparison (Table 3).

Table 3. Popular invest-tech AI Solutions overview.

Name	Bloomberg Terminal	Kensho	Singal AI	Refinitiv
Core function	Financial dashboard with analytical options	NLP for trading trends and geopolitical risk analysis	AI-powered media intelligence system	Massive global media data analysis center
Strengths	Solution integrates industry-specific LLM BloombergGPT, which can give more tailored responses and handle financial data with better accuracy.	Strong and flexible entity recognition in texts (companies, people, locations, products, events)	Mature product, predictive analytics, narrative analysis	Many data sources analyzed in mainstream media, heavily used by traders, funds and ETF managers.
Weaknesses	General finance system meant for enterprise companies, traders and entrepreneurs.	Does not focus on online media data so much, more on English-focused official	Main experience (ESG, governments, enterprises) is not focused on countries as whole and the solution doesn't	Slower on technological development and the introduction of AI solutions for

		communication channels.	include active media exposure tracking	narratives detection
Verdict	BloombergGPT's API could be integrated with the IPAs solution to have an industry specific chatbot.	Not a competitor, but a good industry analogue. Could help to link global events communication to Baltics (but coverage might be small).	A potential competitor (although not suggesting IPAs solution now) but also validates using media intelligence for governmental risks tracking.	Has some common ground with our solution, as it can do media sentiment analysis of ESG outlets for countries and other entities.

Based on Table 3, there are other AI invest-tech solutions that could partially cover the IPA solution, but the one proposed in this thesis is more specialised for tracking FDI-narratives of countries using real-time AI solutions, and therefore, the solution has an opportunity window to become a Signal AI type of solution, but focused on a country's attractiveness. Another opportunity window arises for the applicability of the IPA's solution to replace some of the habits of relying on yearly survey-based countries' indices used for benchmarking and deeper insights (can be presented as a disruptive alternative). The name for the solution proposed in this research can be called "F-DIverse" (hinting at "FDI", "DI" (Lithuanian for AI), and diversity). The solution would be developed by combining media data from partner company Repsense with the findings of this FMT literature research, at the initial stage, strategically focusing on Baltic states, using iterations & versioning in several future stages.

F-DIverse would initially operate in a feedback loop to be more polished: the AI-based system would observe frame building (which actors push narratives), measure it (which attributes dominate coverage), analyse tendencies based on instructions from specialists, propose actionable insights in the media, and close the feedback loop by integrating recommendations from IPAs. The conceptual model of F-DIverse solution (Figure 5) illustrates how external perception data (both passive, from online media coverage, and active, from search engine queries and LLM responses) are processed within the Repsense narratives analysis centre. Through structured methodologies of FDI-narrative construction, sentiment analysis, and statistical validation, these inputs are transformed into a perception monitoring dashboard. The dashboard generates real-time insights on the FDI soft power perception of the Baltic states in foreign countries. The model further incorporates a feedback loop, as the reactions of governments and investment promotion agencies can influence future media coverage and investor search behaviour. This conceptual framework provides both practical

outputs (real-time monitoring, actionable insights) and scientific contributions (a novel application of LLM-based active perception data to FDI research).

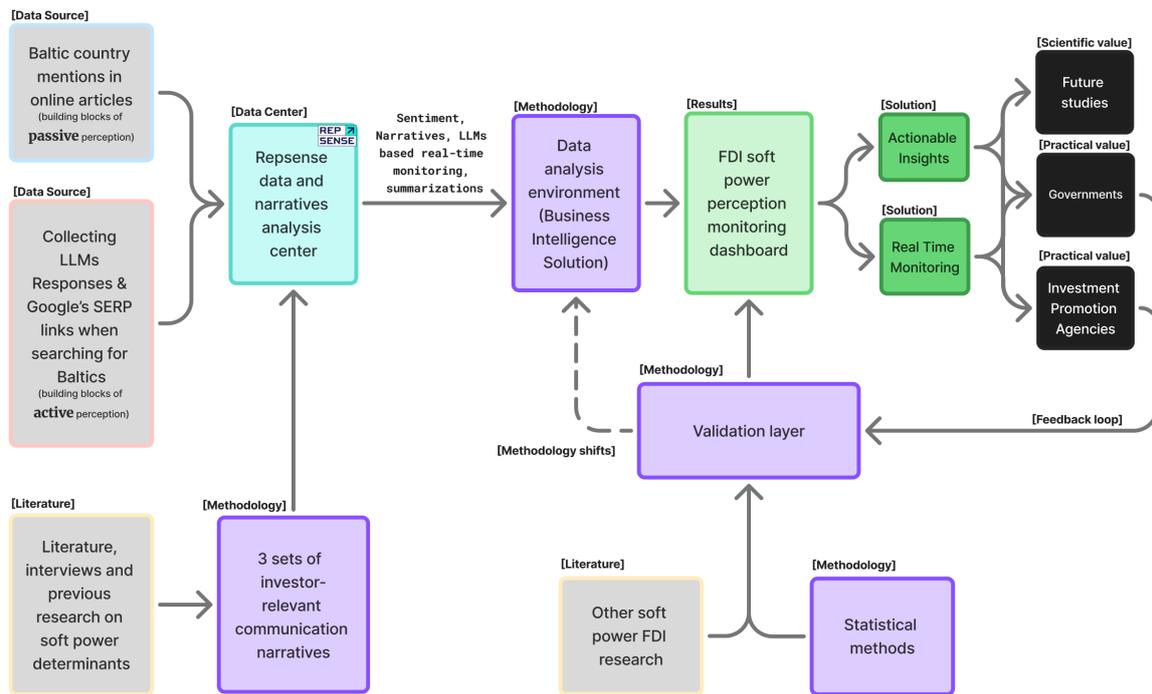


Figure 5. Conceptual model of F-DIverse MVP

After the first iteration of the tool, the second version of the tool would focus on expanding the media sources and adjusting FDI-narratives for social media. The aim of this second-generation tool would be to grant IPAs a guaranteed seat at the table of strategic planning of the country's digital communication plans. It would also track the reactions of foreign media to press releases as well as to new incentives or policies launched.

The latest projected version should include more agentic AI operations. One of the latest publications on this topic by Cheng et al. (2025) has systematised the literature about the usage of AI in communication crises. Authors provide insights that AI is heavily used for social media analysis and sentiment monitoring, with both communication and non-communication journals showing strong interest in the latest scientific media. This specific report emphasises the need for a continuous and adaptive communication process that would be powered by AI. In the future, the following trends could be joined: autonomous AI agents for crisis monitoring, predictive analytics for a nation's image crises (AI models forecasting when a negative story could erupt into a reputational crisis). The research agenda should focus on integrated, ethical, and context-sensitive AI systems in crisis communication. Whims (2024) notes that AI enables companies with rapid, low-volume data processing and real-time analytics during a crisis and assists in monitoring public sentiment. AI solutions supposedly can classify crisis type

(victim/accidental/preventable), but “cannot replace the human expertise needed to interpret emotional cues” as it lacks cultural and contextual sensitivity. This argument is strengthened by Yousif (2025), who argues that AI lacks temporal sensitivity as it uses “fixed, consistently high” image-building sentiment regardless of the context, whereas people use a wider range of balanced (both positive and negative) sentiment in their press releases. According to the author, AI cannot adjust images strategically over time and can be used as an assistant in ad-hoc scenarios.

Table 4. Projected Iterations of F-Diverse.

Version	Description	Markets	Launch date
MVP: passive & active exposure	Monitoring of Countries’ mentions and FDI-narratives in passive and active foreign media components. Early crisis detection and alerting. Analysis of how different countries are framing each of the client countries. Can act as benchmarking tool, replaces slow, expensive, survey-based reputation studies with continuous, automated insights.	Baltic States	February 2026
2 nd version: strategic solution	Analyzing the effect that country’s communication is having for its nation brand. More “hard data” (macroeconomic numbers, new policies) integrated. Social media sources with deep analysis are being monitored as well. Discovering new, emerging FDI-sub-narratives.	Emerging Europe countries	July 2026
3 rd version: leveraging emerging disruptive technologies	The introduction of agentic AI for press releases and reputation management. Assists in digital strategy designing, can be used across more mandates withing IPAs or governmental institutions.	OECD countries	December 2026

The solution proposed by F-Diverse can be classified as a deeptech solution in a rather conservative environment, as it ticks the following boxes:

- Solution fits the deeptech definition of MIT de Apodaca et al. (2022) for being a science-based technology solution characterised by high uncertainty, long uncertain R&D cycles, and capital intensity. It involves research, validation, methodology, and operational stability and can be distinguished by strong ecosystem linkages. The solution is also mission-driven – tackling big societal or global challenges.
- Solution fits the deeptech ecosystem fit by Boston Consulting Group (2019) because it requires loads of initial R&D, drives different players in ecosystems, is tied to solving “deep problems” and addressing SDGs, as monitoring a country’s image is linked to sustainability and geopolitical resilience.
- LLM-based finance tools are explicitly positioned as deeptech solutions (Zhao et al., 2025) for being cutting-edge, computationally heavy, disrupting other industries, and opening a new ecosystem potential within fintech and investtech.

2. METHODOLOGICAL PART

2.1 Data from Repsense

2.1.1 Background of Repsense

Repsense is a Lithuanian data analysis company founded in 2022 by the country's top communication specialist, Mykolas Katkus, and an ex-Palantir technician, Alfredas Chmieliauskas. Started as an online reputation management software, in 2025, Repsense analyses hundreds of thousands of media outlets around the world daily to solve issues in business communication, political landscapes, and to explore new analysis methods that help to understand social media content and disinformation campaigns better.

Repsense has been tracking Lithuania's mentions in foreign media for over three years so far. The particular initiative is a non-profit that first analysed Google search volume data about the Baltic States (Delfi, 2023), and then it started monitoring Lithuania's mentions that appear in the foreign Google News page (Delfi, 2024). This transitioned to full monitoring of Lithuania's mentions in 100 countries' media (Delfi, 2025), and finally, starting in 2025, Repsense is tracking the mentions of Latvia and Estonia as well.

The company is willing to collaborate with the government and academic institutions by providing data and insights. Several studies and master's theses have already been written that used data samples from Repsense (Plikusas & Černikovaitė, 2025; Pranauskas, 2025; Žadeikaitė, 2025).

This FMT is focused on utilizing the data collected by Repsense to analyze in real-time the perceptions that foreign investors have about the Baltic States. And while underlying data from media monitoring partner is proprietary, the analytical logic, narrative definitions, indicator construction steps and some of the models can be replicated using alternative media sources that can provide the needed data and infrastructure for models to run on it.

2.1.2 Data Sample Description

Passive Exposure data

Passive exposure data were accessed via the Repsense database. The timeframe was selected from 1st of January 2025 until 1st of November 2025 (10 months). 3 monitoring configurations representing each of the Baltic States were accessible. Data sample included mentions from 101 foreign regions with a total number of 2,119,901 distinct values of URLs

(mentions) collected. This data sample was further filtered to fit research goals, and it included most of the datapoints used in further analysis: title, text, author, URL, region, publication date, narratives & entities matched, and model scores.

Active exposure data

To be able to replicate investor active exposure, 3rd party tools were used to collect SERP data from “Google News” result page. The search was conducted using Google domains from different countries and using translated entity names. Analysis lasted for a 10-month period from 2025-01-01 to 2025-11-01, and data were collected retrospectively.

For Estonian data, a setting was used to collect top 50 SERP results every 3 days using translated queries “Estonia”, “Estonian economy” and “Tallinn”, which resulted in 3102 news mentions collected in 26 regions: Argentina, Australia, Austria, Belgium, Canada, Egypt, France, Germany, Ghana, Great Britain, Italy, Latvia, Lithuania, Mexico, Moldova, Netherlands, Poland, Qatar, Romania, Saudi Arabia, Spain, Sweden, Switzerland, UAE, USA.

For Latvian data, a setting was used to collect top 20 SERP results every 7 days using translated queries “Latvia”, “Latvian economy” and “Riga”, which resulted in 1719 news mentions collected in 27 regions: Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Croatia, Czechia, Estonia, France, Germany, Ghana, Great Britain, Italy, Lithuania, Mexico, Moldova, Netherlands, Poland, Portugal, Serbia, Spain, Sweden, Switzerland, Ukraine, USA.

For Lithuanian data, a setting was used to collect top 20 SERP results every 7 days using translated queries “Lithuania”, “Lithuanian economy” and “Vilnius”, which resulted in 2262 news mentions collected in 35 regions: Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Croatia, Czechia, Denmark, Egypt, Estonia, Finland, France, Germany, Ghana, Great Britain, Hungary, Italy, Latvia, Mexico, Moldova, Poland, Portugal, Qatar, Romania, Saudi Arabia, Serbia, Slovakia, Spain, Sweden, Switzerland, Ukraine, UAE, USA.

The tendency can be seen that querying historical data more frequently and requiring to check more results per query resulted in a larger number of articles collected. All collected data from this sample was run through the Repsense processing line.

Other datapoints representing the active media exposure component were collected from other 3rd party tools; among them, this research collected responses from different LLMs about investment climate in the Baltics, as well as the data of Google search volume of examined Baltic countries from foreign regions.

2.1.3 Data Usage Ethics

The agreement made with Repsense to use the company's data was reached upon the following points:

1. Repsense's intellectual property not disclosed in this work is to remain a business secret
2. Repsense gets full rights to commercially use the findings made in this research
3. Repsense is recognized as the official data provider for this FMT

2.2 Data Preparation

2.2.1 Working with Repsense Internal Systems

During the research, several active work sessions with Repsense internal systems were required. Researcher had to create monitoring configurations, set their target entities, world regions of interest, create, fine-tune, and assign narratives and their statements. Most of these tasks were done via the interface in the Repsense internal toolkit. Data Analysis was conducted using business intelligence (BI) tool with an integrated query builder interface, as well as an SQL executor and visualization options.

Finally, researcher had to take care of data ingestion and processing, as well as to prepare monitoring configurations, all mostly via templates of workflows. The monitoring configuration set-up, data ingestion, testing, and multiple recalculations took a total of around 4 weeks to be completed.

2.2.2 Picking World Regions to Monitor Baltic States In

The original data sample included the mentions of the Baltic States in 102 world regions. The number of regions is important for other fields of Repsense (political, disinformation, and general image analysis), but in terms of potential IFDI attraction to Baltic States, not all of these regions can be considered relevant. The following is a table that contains the list of world regions that were excluded from this analysis, together with the reason they can be categorized with.

Table 5. World regions that have been excluded from the data sample.

Reason for Exclusion	Region Name
Very weak OFDI capacity	Afghanistan
	Angola
	Cameroon
	Ethiopia

	Honduras
	Iraq
Small Latin American economies with nearshoring FDI	Bolivia
	Colombia
	Costa Rica
	Ecuador
	Guatemala
	Paraguay
	Peru
	Uruguay
	Venezuela
Politically Blocked	Belarus
	China
	Russia
Lower-middle income Asian economies with negligible OFDI	Bangladesh
	India
	Kazakhstan
	Mongolia
	Pakistan
	Philippines
	Sri Lanka
	Turkmenistan
	Uzbekistan
	Vietnam
Lower-income African countries with tiny OFDI	Côte d'Ivoire
	Kenya
	Niger
	Nigeria
	South Africa
	Uganda
Low amount of monitoring data available (<11 daily mentions)	Kuwait
	Malta
	Monaco
	Morocco
	New Zealand
	Oman

UNCTAD Investment Report (2024) was chosen as a source to report on the magnitude of general FDI numbers, and the International Monetary Fund (2025) database was used to collect the precise IFDI numbers for the Baltic States. At the time of the research (the database was accessed in early November 2025), the latest data available was for 2023, but ideally, the analysis should include the latest data as well.

Table 6. World regions selected from the data sample, with their OFDI to the Baltic States in 2024.

Continent	Region with ISO 3166-1 alpha-2 code	IFDI into Estonia, \$ million (2020-2023)	IFDI into Latvia, \$ million (2020-2023)	IFDI into Lithuania, \$ million (2020-2023)
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Europe	Albania (AL)	0.5	0	1
	Armenia (AM)	79.4	273.9	8.8
	Austria (AT)	1790.2	1275.6	1068
	Azerbaijan (AZ)	4.5	69.3	11
	Belgium (BE)	5263.6	457.3	898.2
	Bosnia and Herzegovina (BA)	1.2	0	48.6
	Bulgaria (BG)	74.2	46.6	33.5
	Croatia (HR)	56.3	1.2	6.5
	Cyprus (CY)	2994.8	5952.5	7053.8
	Czechia (CZ)	135.9	271.4	143.5
	Denmark (DK)	2861.5	3575.8	4610.3
	Estonia (EE)	N/A	12560.4	15102.1
	Finland (FI)	30116.8	1889.3	3143.7
	France (FR)	3126.9	687.4	3280.6
	Georgia (GE)	79.9	96.4	46.9
	Germany (DE)	-4516.9	5943.7	25688.8
	Great Britain (GB)	4381.8	1590.3	2836
	Greece (GR)	64.7	4.5	7.2
	Hungary (HU)	252.8	42.7	49.5
	Iceland (IS)	310.6	241.2	192.3
	Ireland (IE)	941	217.2	1699.1
	Italy (IT)	527.3	575.1	300.6
	Latvia (LV)	9690	N/A	6639.3
	Lithuania (LT)	6140.5	7379.1	N/A
	Luxembourg (LU)	29206.2	3369.9	6492
	Moldova (MD)	25.2	2.3	-0.2
	Netherlands (NL)	6015.1	4995	14399.4
	North Macedonia (MK)	6.4	0	0
	Norway (NO)	2337	2094.8	3035.5
	Poland (PL)	1106.4	793.9	5336.7
	Portugal (PT)	214.7	1.1	79
	Romania (RO)	60.7	50.6	28.6
	Serbia (RS)	33.4	8.8	-0.7
Slovakia (SK)	-587.4	48.6	71.1	
Slovenia (SI)	15.3	3.3	60.2	
Spain (ES)	147.9	81.9	388.4	
Sweden (SE)	20377.5	25203.6	15230	
Switzerland (CH)	3296.4	936.7	3609.9	
Türkiye (TR)	226.3	88.5	27.7	
Ukraine (UA)	2379.3	905.1	501.1	
Africa	Algeria (DZ)	2.9	0	1.1
	Egypt (EG)	72.5	0	3.3
	Ghana (GH)	0.8	0	0
South America	Argentina (AR)	13.4	0	1
	Brazil (BR)	-654.2	3.3	5.2
	Chile (CL)	4.9	0	0
North America	Canada (CA)	227.5	60	839.5
	Mexico (MX)	-2.2	-9.2	-3.4

	United States of America (US)	1884.0	1133.7	3760.2
Australia	Australia (AU)	143.9	-6.7	1.1
Asia	Indonesia (ID)	5	0	10.1
	Israel (IL)	126	464.7	300.2
	Japan (JP)	720.7	1.1	2.9
	Malaysia (MY)	8.9	0	1.5
	Qatar (QA)	7.3	0	3.9
	Saudi Arabia (SA)	11.3	0	16.2
	Singapore (SG)	707	149.8	224.8
	South Korea (KR)	3.3	53.6	6.7
	Taiwan (TW)	5.7	4.4	15.4
	Thailand (TH)	19.9	0	275.5
	United Arab Emirates (AE)	1000.6	19	1155.5

A total of 61 countries (world regions), including the Baltic States, were selected from the Repsense database to continue this study with, which meant that each of the States mentions were monitored in 60 foreign regions.

2.2.3 Setting up Entities and their Aliases

The monitoring target configuration was set by using keywords of entities and searching for them in the text. The entities were first limited to country names (Lithuania, Latvia, Estonia). Each entity is described in a large set of its alias values to cover all its cases (using equivalents to Lithuanian grammatical cases), and it must also cover all main languages that were selected from the world regions chosen to be included in the research. The languages used for aliases were the following: Albanian, Armenian, German, Azerbaijani, Dutch, Lithuanian, Latvian, Estonian, Polish, French, Italian, English, Bosnian, Croatian, Serbian, Bulgarian, Greek, Czech, Danish, Finnish, Georgian, Hungarian, Icelandic, Norwegian, Swedish, Portuguese, Spanish, Romanian, Macedonian, Arabic, Indonesian, Slovak, Slovene, Turkish, Ukrainian, Hebrew, Japanese, Korean, Malay, Chinese Mandarin, Thai. After deduplication, every entity was described in ~200 aliases.

Interpreting the sub-national perspective of the OLI Paradigm (Batschauer da Cruz et al., 2022), an important point has been made that OLI, and most importantly its “Location” factor, works sub-nationally as well. Foreign investors can look differently at different entities of a single country. Given this, the monitoring configuration was supplemented by also tracking the biggest and business-wise most important cities in the Baltic states: Vilnius, Riga, and Tallinn (Tartu was also considered an option for Estonia, but finally all three capital cities were

selected for an option to compare them). The final monitoring configuration was tracking the aliases of 6 entities: Estonia, Latvia, Lithuania, Tallinn, Riga, and Vilnius.

2.2.4 Creating Narratives and Statements

Narrative analysis does not define narrative by a strict definition, and narratives are actually described by a series of narrative statements – arguments that represent a specific angle of communicating about a certain narrative. For each of the 11 FDI Narratives, selected throughout literature analysis (Appendix 1), 45 narrative-describing statements were created and further used in the Repsense system to perform narrative analysis. The statements were generated with the help of the LLM model ChatGPT-5.1, which was given the literature analysis table from Appendix 1 for context and an informative prompt with instructions on how to execute the exercise (Appendix 5). The statements generated by the LLM are provided in Appendix 2.

Each of the narratives also had to be calibrated by selecting a cosine-similarity threshold that would generate the best signal/noise ratio with as few false positives (when the system says text matches a narrative, but the human filter does not agree) as possible. This was done by recalculating a small sample of data multiple times with different similarity thresholds and performing a human eye test on the results. Finally, all the narratives were set on the same similarity setting for better comparison options.

2.3 Analytical Methods

During the data processing stage, several text analysis models were utilised using the Repsense infrastructure. This chapter is dedicated to a short description of the models used.

2.3.1 Text Depository

Not a model, but a rule that applies to all media that Repsense analyses. It is the principle of a multimodal input system, where, regardless of the media format ingested (text, print, audio, video, or other), all the media files must be converted to a text format within the system, forming a stable text depository. For printed media and visuals, optical character recognition (OCR) is applied, while for audio analysis, a speech-to-text procedure is conducted.

Once all the data is available in the text depository, it is run through transformers (text embeddings) and contributors (3rd party tools that provide additional data) stage. Finally,

original or transformed texts are processed using multiple data and AI models to then be accessible for data analysis from the database. Data processing pipeline schema illustrated:

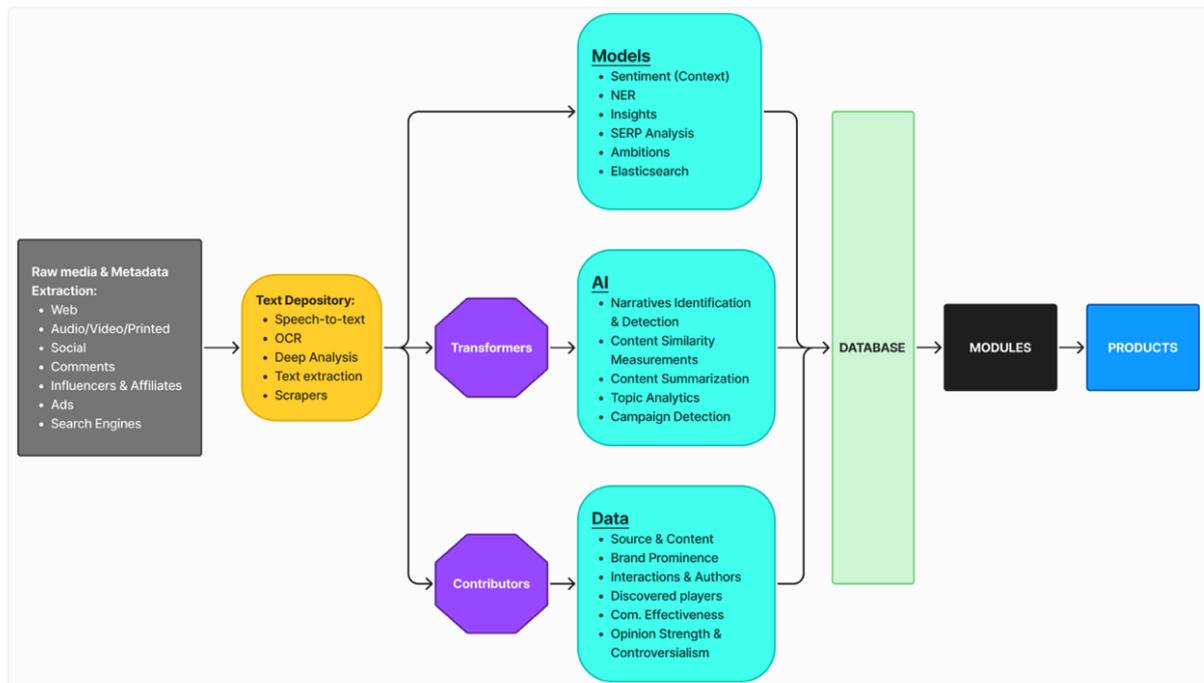


Figure 6. Repsense media data processing pipeline.

2.3.2 Sentiment Model

A highly utilised model in this research. The model is based on an open-source sentiment model, *DistilBERT*, that is additionally trained by the Repsense company to perform better on media texts. The model can tell the sentiment polarity (negative, neutral, positive) and its strength on a scale from -100% to +100%. Sentiment is evaluated on a sentence level and then calculated for a single entire text, giving stronger weights to the title sentiment and the sentiment of the first sentences. Only these text sentences that mention target entities are included for the final sentiment evaluation to strengthen the true signals. However, even with this inclusion rule, the model sometimes tends not to agree with humans, as the sentiment topic is subjective, and some examples can be misleading. For instance, if a Lithuanian economist is commenting that FDI is slowing in Southeast Asia, the model will rate it as a negative sentiment text that mentions Lithuania, although it's really nothing negative about Lithuania. Therefore, Repsense recommends defining the model score as "context" and is planning to switch to an aspect-based sentiment model (that would analyse each sentence from multiple aspects) soon.

2.3.3 Brand Prominence Model

Although the original data sample consisted of over 2.1 M texts, it can hardly be said that all these texts, mentioning the Baltic States, are of the same weight. Firstly, they are of a different context and match different communication narratives, but secondly, the role that Baltic States entities are playing in each of those texts differs as well. For instance, article A can review Lithuania's economic landscape, where article B might just mention Lithuania at the end of the text as a country neighbouring Poland. The weights of importance of these articles are unmatched. Therefore, Repsense uses its own brand prominence model that gives a weight score [0%; 100%] depending on the role that a certain entity plays within the text. It is measured based on the positioning of entity-matching sentences within the text, as well as the positioning of all the other players (entities) within the text that have been discovered using a named-entity recognition (NER) model.

2.3.4 Text-Embeddings Model

Not all mentions of Baltics in the foreign media are FDI-related. Quantitative analysis is not sufficient to provide insights into this matter, so the problem calls for qualitative measures such as semantic analysis. Computers cannot be directly tasked to analyse human language, as the language of computers is in numbers. To translate human-to-computers, a technology called text embeddings is utilised. Text embeddings are running on strongly pre-trained neural networks, which allows the model to calculate probabilities that one text is located within another text. These probabilities can be expressed as high-dimensional vectors (embeddings), and the result of it is human language translated to numbers (computer language).

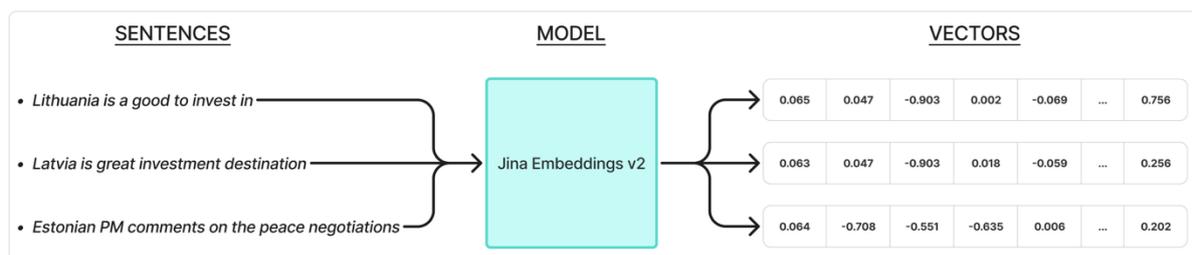


Figure 7. Text Embeddings Transformation.

The monolingual Jina Embeddings v2 model was used in this processing pipeline. The vectors generated during the embedding translation have over a hundred dimensions. However, that does not stop the system from being able to mathematically manipulate the vectors, or in other words, to perform mathematical operations on texts. For the easier visualisation of text vectors, a dimension reduction operation can be applied to plot vectors in a 3D space:

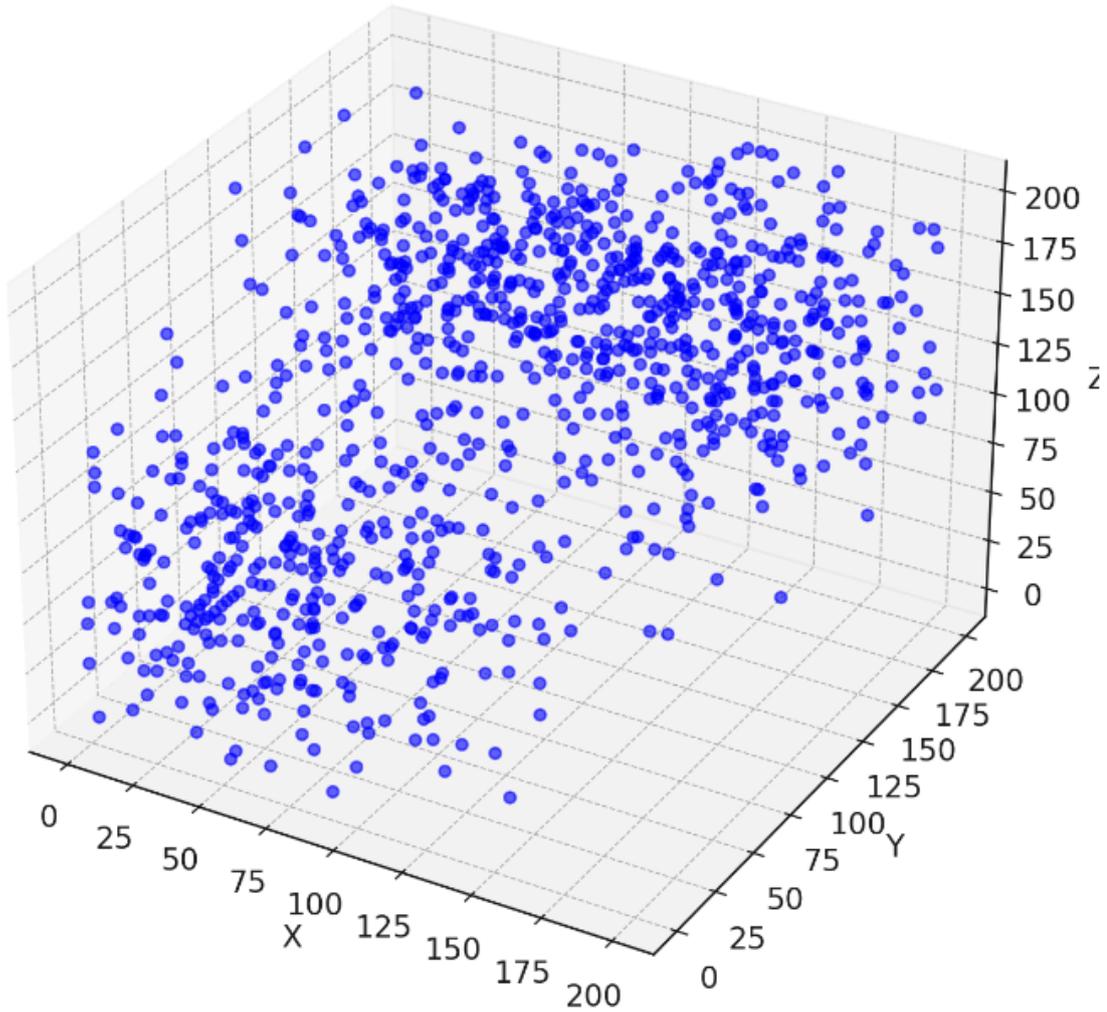


Figure 8. 1000 texts were transformed into vectors and placed in a 3D space system.

In the visualization of Figure 8, every blue dot represents media texts (in our case, they are the sentences from texts that mention entities), and the position of each blue dot is decided based on its semantic value. Mathematically, the dots that are closest to each other in this space represent semantically similar texts.

2.3.5 Narrative Analysis Model

Each narrative in the monitoring configuration consists of multiple arguments (Appendix 2). As these arguments are in the text format, they can also be transformed to vectors and placed within the same vector space (red dots):

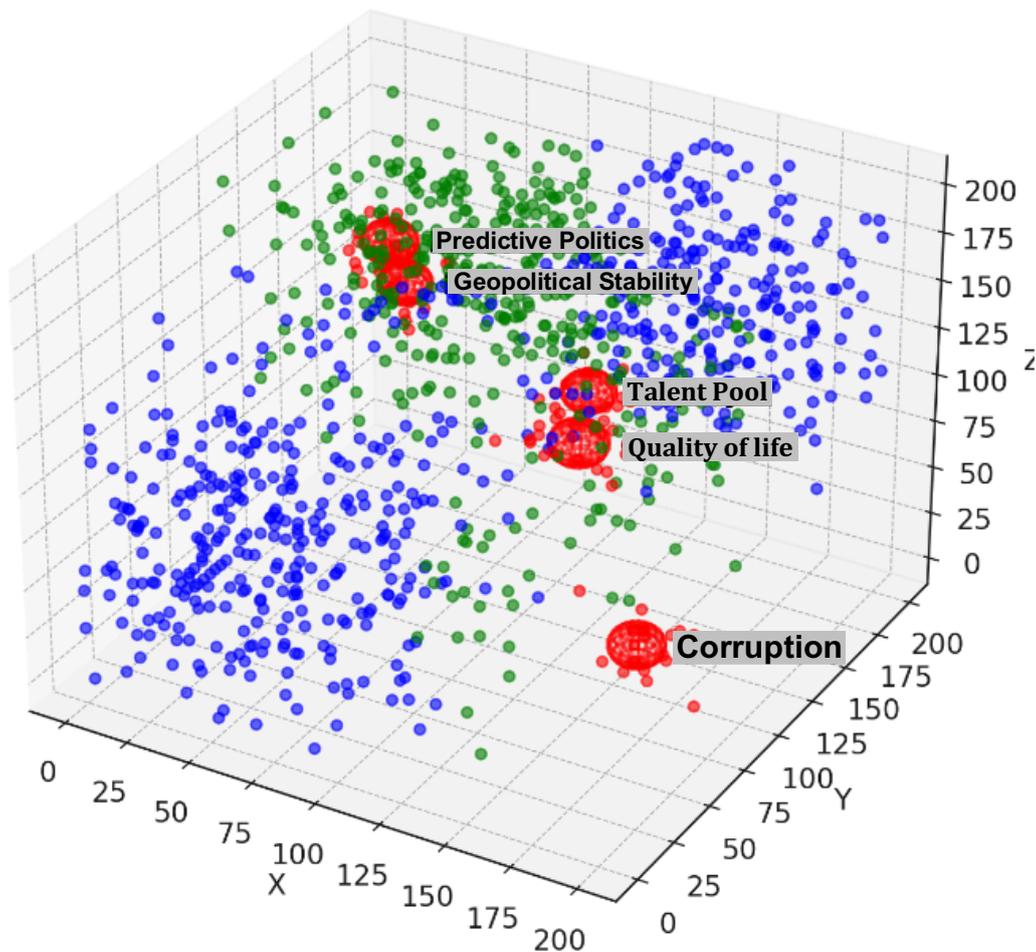


Figure 9. Narrative Analysis in a vector space.

Arguments of narratives (red) create clusters within themselves and can be labelled by the narrative name. Narrative analysis from there is based upon each narrative's threshold cosine similarity, which can be understood as distance in the vector space. Media texts (blue dots) that are closer to the central point of narrative clusters than a given threshold are considered texts that match a certain narrative (green). Texts can also match multiple narratives at once or no narratives at all. The similarity threshold is configured within the internal tools.

2.4 Analysis Structure

2.4.1 Scientific Research

The base of this FMT analysis relies on filtering the initial data sample to signal data and analysing its parameters. First, the data sample is filtered to web articles that mention Baltic States' aliases, then the data sample is filtered to 61 target regions (countries) and additionally

filtered to only those mentions that have matched FDI narratives. The filtered media data sample is then separated into its passive and active components and analyzed separately.

Most of the data available consisted of passive exposure origin. This data was analyzed using narrative analysis to better understand the dominating FDI narratives in the Baltic States, sentiment analysis and brand prominence analysis methods to understand most significant events that contributed to country's image, as well as analysing media reach to consider the magnitude of news coverage as well as separate sample of results when analysis was conducted zooming into the capital cities of countries and analysing them separately. Results were compared with IFDI data for each of 60 foreign regions from the perspectives of Lithuania, Latvia, and Estonia.

The second part of the analysis consisted of analysing data associated with the active media exposure component. Data collected from Google SERP was collected using the same methods as with passive media data. Additionally, Google search volume data was analyzed to provide insights into the magnitude of search intent, as well as data provided by analysing responses from 10 LLM chatbots when they were tasked to rank Baltic States as investment destinations. The active media exposure component was analyzed with the main target – to investigate the importance and specifics behind search behaviour and results when considering the Baltic States as an investment destination.

The analytical chapter also constantly uses linear regression models to measure the connection between FDI numbers and soft power elements, with the task of investigating the actual connection between these two. And finally, model scores extracted from the Repsense database are used to build a soft power media index and compare the effectiveness of Baltic States in terms of FDI narratives within the given timeframe of the research.

2.4.2 Toolkit Used

Main tools used for data analysis and visualization:

- Data analysis and business intelligence tool **Metabase** was used to access and analyze data using query builder and SQL code, also to visualize it and host the MVP dashboard for IPAs.
- Statistical analysis software **IBM SPSS** (licensed by Vilnius University) was used to visualize scatter charts and analyze linear regressions.
- Cloud-based design tool **Figma** was used to draw schemas.
- The OpenAI **ChatGPT-5.1 model** was used to draw some of the visualizations.

- **Microsoft 365 Excel** was used to create tables and perform basic calculations.

2.4.3 Building a Solution for IPAs

During the analysis phase of this FMT, a first iteration dashboard was built for IPAs. The dashboard is connected to Repsense live data and can provide insights for any latest date period. The first version allows the user to access the following views:

- Temperature (weighted sentiment) per foreign country.
- Weighted reach per country.
- Feed of country mentions.

The views have filters integrated that enable the user to filter the data sample by region, specific FDI narratives, generally apply FDI narratives, and filter by a specific timeframe. The system can also send email alerts to users when the temperature in a specific region and within a specific timeframe reaches (drops) to a certain critical threshold.

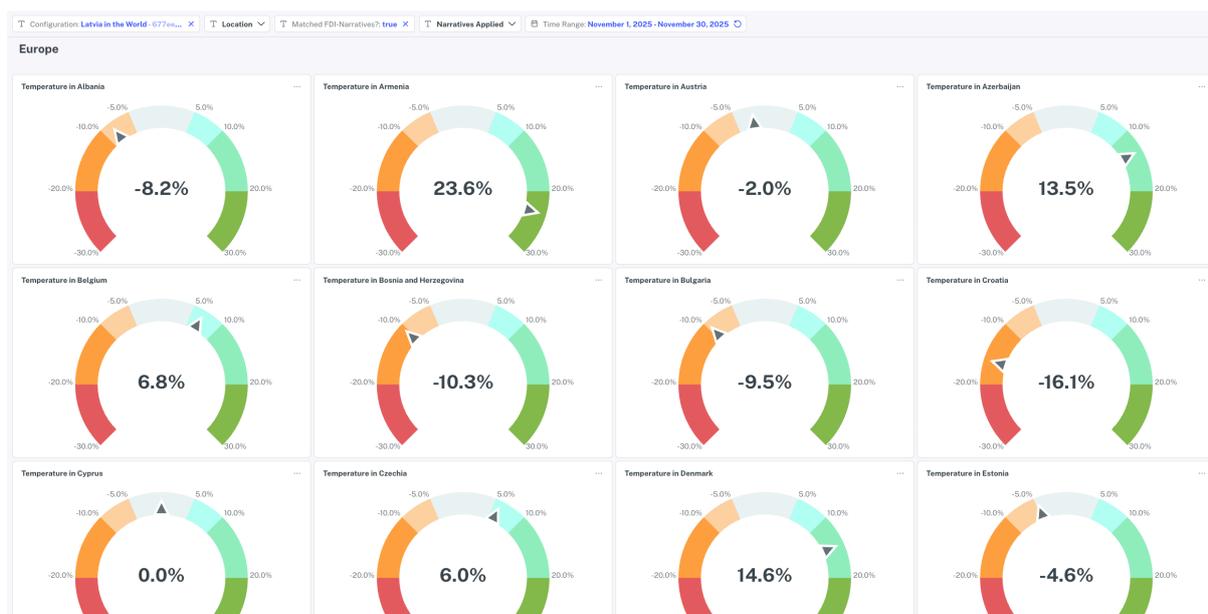


Figure 10. A screenshot from F-Diverse dashboard

3. ANALYTICAL PART

3.1 Passive Exposure

3.1.1 Narrative Analysis

Between 1st of January 2025, and 31st of October 2025, Repsense collected over 2.1M media mentions of Baltic states in its monitoring configuration:

- 700,397 mentions of Estonia in foreign media. The amount shrinks to 553,211 mentions after filtering down to 61 target regions.
- 641,725 mentions of Latvia in foreign media. The amount shrinks to 503,980 mentions after filtering down to 61 target regions.
- 777,779 mentions of Lithuania in foreign media. The amount shrinks to 618,908 mentions after filtering down to 61 target regions.

After additionally filtering down to mentions that matched FDI narratives, Estonia had 37,100 (6.71% narrative coverage), Latvia had 24,837 (4.93% narrative coverage), and Lithuania had 36,153 (5.84% narrative coverage) media mentions remaining. The differences in narrative coverage numbers witness that although Lithuania had the biggest media coverage out of the Baltic States, Estonia had a higher percentage of mentions in FDI-narratives and even a bigger number of such mentions in absolute scale. The following table represents the most popular FDI narratives for each of the Baltic States.

Table 7. Top FDI narratives of each Baltic State.

FDI-Narrative	Estonia's Mentions	Latvia's Mentions	Lithuania's Mentions
Geopolitical Stability	12725, 34.3% share, negative (-15.8%) sentiment	8161, 32.9% share, negative (-9.4%) sentiment	12971, 35.9% share, negative (-15.4%) sentiment
Infrastructure, Location & Connectivity	8929, 24.1% share, positive (+9.6%) sentiment	8330, 33.5% share, positive (+10.2%) sentiment	10443, 28.9% share, neutral (+4%) sentiment
Innovation in Strategic Industries	6992, 18.8% share, positive (+14.1%) sentiment	2731, 10.1% share, positive (+16.7%) sentiment	3762, 10.4% share, positive (+16.8%) sentiment
Talent Pool	4405, 11.9% share, positive (+12.7%) sentiment	2966, 11.9% share, positive (+12.1%) sentiment	3795, 10.5% share, positive (+8.9%) sentiment
Quality of Life	3968, 10.7% share, positive (+16%) sentiment	4058, 16.3% share, positive (+21.9%) sentiment	4558, 12.6% share, positive (+19.3%) sentiment
Sustainability	3898, 10.5% share, positive (+8.7%) sentiment	2697, 10.9% share, positive (+10.8%) sentiment	2932, 8.1% share, positive (+10.9%) sentiment

Price & Tariffs	3432, 9.3% share, negative (-17.7%) sentiment	2023, 8.1% share, negative (-12.4%) sentiment	2665, 7.4% share, negative (-23.8%) sentiment
Supportive Policies & Ease of Doing Business	3282, 8.8% share, neutral (+4.5%) sentiment	1183, 4.8% share, positive (+9.1%) sentiment	1729, 4.8% share, positive (+6.5%) sentiment
Corruption	2472, 6.7% share, neutral (+0.8%) sentiment	939, 3.8% share, negative (-6.8%) sentiment	1024, 2.8% share, negative (-18.4%) sentiment
Domestic Market	2218, 6% share, neutral (-1.1%) sentiment	1165, 4.7% share, positive (+9.8%) sentiment	1367, 3.8% share, positive (+6.5%) sentiment
Predictive Politics	1466, 4% share, negative (-5.7%) sentiment	903, 3.6% share, neutral (-0.6%) sentiment	1789, 4.9% share, negative (-15.8%) sentiment

From Table 7, the Baltic States, indeed, are frontline countries with geopolitical stability being the number one FDI-related topic overall. The dominating argument of this narrative is “*Close cooperation with partners is helping maintain diplomatic credibility*”, while the secondary arguments of “long-term risk” versus “ensuring security through partner organizations” are fighting each other almost equally. Latvians are noticeable in location communication, emphasizing the country being a key transit link that expands export opportunities. Estonia is the country most mentioned as a strategic innovator, especially with the arguments of AI initiatives and green technology startups, whereas Latvia and Lithuania are prominently mentioned within the defence/dual-use industry and cross-border accelerators. Among the main arguments for the Talent Pool narrative, the countries are telling that they can attract foreign specialists through universities, with Estonia additionally visible in the remote work argument, and Lithuania is also seen through the statistics of a lower youth unemployment rate. Latvia can be noticed to put effort into the quality of life narrative, although Lithuania is often mentioned as more diverse and having growing international communities. Sustainability-wise, Estonia is seen through the green startups, while the other countries are making their name through renewable energy projects. Price narrative is seen negatively, with energy and foreign goods prices seeing instability for the countries. Finally, other narratives were not that prominent, but Estonia maintained a relatively positive image in the corruption narrative due to digitalized government sites, while Paluckas's scandal saw a dip in sentiment for Lithuania in this narrative.

A common issue of using narrative analysis by text vectors is that the clusters of narratives overlap too much (by poorly distinguishing narratives or their argument statements they become too similar). Narrative density criteria can assist in calculating how many narratives, on average, one narrative matching mention matches:

$$narrative_{density} = \frac{\sum_{i=1}^N Mentions(Narrative_N)}{Mentions_{Narrative_Matching}} \quad (1)$$

where $Mentions(Narrative_N)$ is the number of mentions matched by a specific N narrative, and $Mentions_{Narrative_Matching}$ stands for the total mentions that matched any of the narratives.

The narrative density for Estonia was calculated to be 1.449, for Latvia it was 1.415, and it had the lowest value for Lithuania at 1.338. The narrative density is to be considered healthy, as in most cases, texts match a single distinct narrative, unless a longer text covers multiple topics. Another insight is that Estonia not only has the highest narrative coverage (the biggest percentage of country mentions are FDI-impactful) but also these mentions on average match more FDI narratives at once and therefore is more effective compared to other States.

3.1.2 Sentiment Analysis

The context of an average article for countries is usually neutral to slightly negative; however, when FDI narratives are applied, the overall sentiment score goes up. In the period from 1st of January 2025 until 31st of October, 2025, Estonia had just 3 out of 304 days with a positive average daily sentiment score, with an overall average of -11%. Narratives applied, 151 days showed a positive daily sentiment score, with an overall average of -1% (+10 points). The most positive day was the 20th of February, with +20% average sentiment score (marking the country's partnership with the UAE for the latter to implement a digital bureaucracy transformation with other positive business news) and the most negative day, with an average sentiment score of -32% was on 21st of September (marking Russia violating NATO airspace over Estonia).

Latvia had 13 out of 304 days with a positive average daily sentiment score, with an overall average of -7.2%. Narratives applied, 186 days showed a positive daily sentiment score with an overall average of +1.1% (+8.3 points). The most positive day was 14th of February with +26% average sentiment score (no clear association, Latvia's Golden Visas get attention), and the most negative day with an average sentiment score of -43% was on 29th of March (marking Latvia's efforts to reinforce border control with Russia and Belarus).

Lithuania had just 1 out of 304 days with a positive average daily sentiment score, with an overall average of -12%. Narratives applied, 101 days showed a positive daily sentiment score with an overall average of -3.6% (+8.4 points). The most positive day was the 30th of September, with +19% average sentiment score (Lithuania gets attention in ITAP 2025 as a

rising European advanced manufacturing hub), and the most negative day, with an average sentiment score of -34%, was on the 29th of March (marking 4 U.S. soldiers reported missing in Lithuania).

Applying narratives not only filters a significant part of unrelated country mentions, but it also changes the sentiment dynamics, highlighting the events that would generally not appear as prominent when trying to understand the FDI communication about a country. Following this, the weighted sentiment of different foreign media texts about the Baltic States in their FDI narratives was measured. The weighted sentiment score is used to eliminate extreme sentiment scores (strongly positive/negative) when the role of the mentioned entity within the text is episodic rather than primary.

$$sentiment_{weighted} = brand_{prominence} \cdot sentiment_{score} \quad (2)$$

The Table 8 defines the extreme (positive and negative) values of weighted sentiment for each of the Baltic States from foreign media:

Table 8. Weighted sentiment extreme scores for each of the Baltic States.

Estonia's Mentions		Latvia's Mentions		Lithuania's Mentions	
Malaysia	+19.1%	Malaysia	+18.8%	Japan	+15.6%
United Arab Emirates	+18.3%	Indonesia	+18.1%	Saudi Arabia	+12.6%
Armenia	+15.9%	United Arab Emirates	+15.8%	Malaysia	+11.8%
Japan	+13.5%	Qatar	+14.5%	Qatar	+11.2%
Thailand	+9.3%	Saudi Arabia	+14.1%	Portugal	+10.5%
...
Bosnia & Herzegovina	-13.1%	Luxembourg	-7.1%	Germany	-11.7%
Luxembourg	-13.5%	Singapore	-7.1%	Serbia	-12.2%
Cyprus	-13.9%	Serbia	-7.2%	Bosnia & Herzegovina	-12.8%
Georgia	-16.2%	Bulgaria	-8.3%	Albania	-13.5%
Bulgaria	-17.1%	Georgia	-13.8%	Georgia	-18.7%

From Table 8, it can be said that the Baltic States appear with a rather positive sentiment in the media of the Far and Middle East. European countries hold a moderate sentiment, where Balkan countries (Albania, Serbia, Bulgaria, Bosnia & Herzegovina) and other countries under the stronger influence of pro-Russian media (Georgia) depict Baltic countries with the worst weighted sentiment. And although the real practical use of this score is monitoring its changes on a daily basis, some long-term worries (Lithuania's sentiment in Germany) or opportunities (Lithuania's sentiment in Portugal) should be studied more closely.

IFDI numbers are studied to be dependent on media sentiment; however, media-weighted sentiment for this research was collected from 2025, while IFDI numbers were only collected from the 2020-2023 period. Therefore, the following set of charts focuses on general correlation rather than on being able to predict the IFDI dynamics. The scatter chart of this data showed a rather negative slope, signalling that countries that were investing more into the Baltic States are covering more negative events or reporting news in a stronger sentiment:

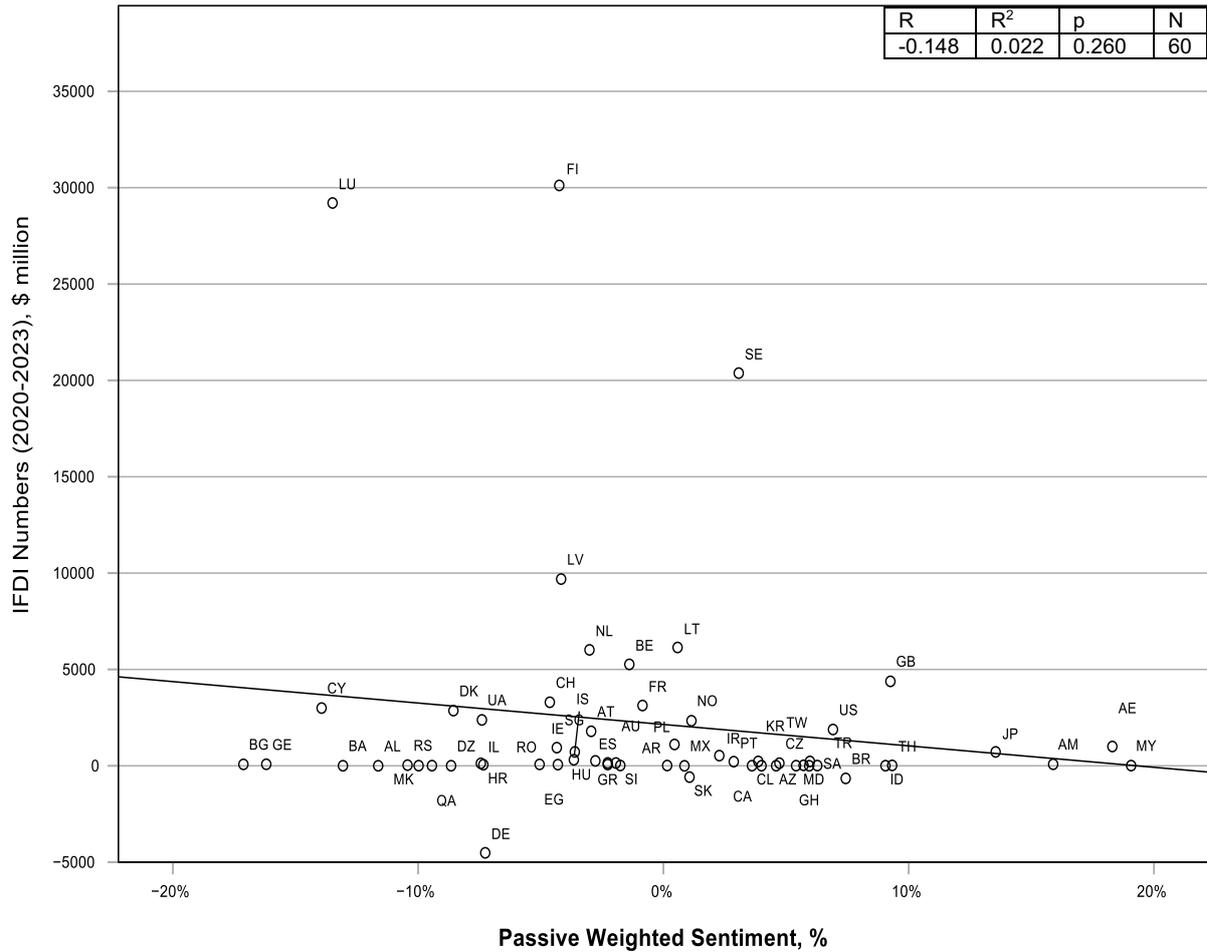


Figure 11. Estonia's IFDI and Passive Weighted Sentiment in 60 foreign regions.

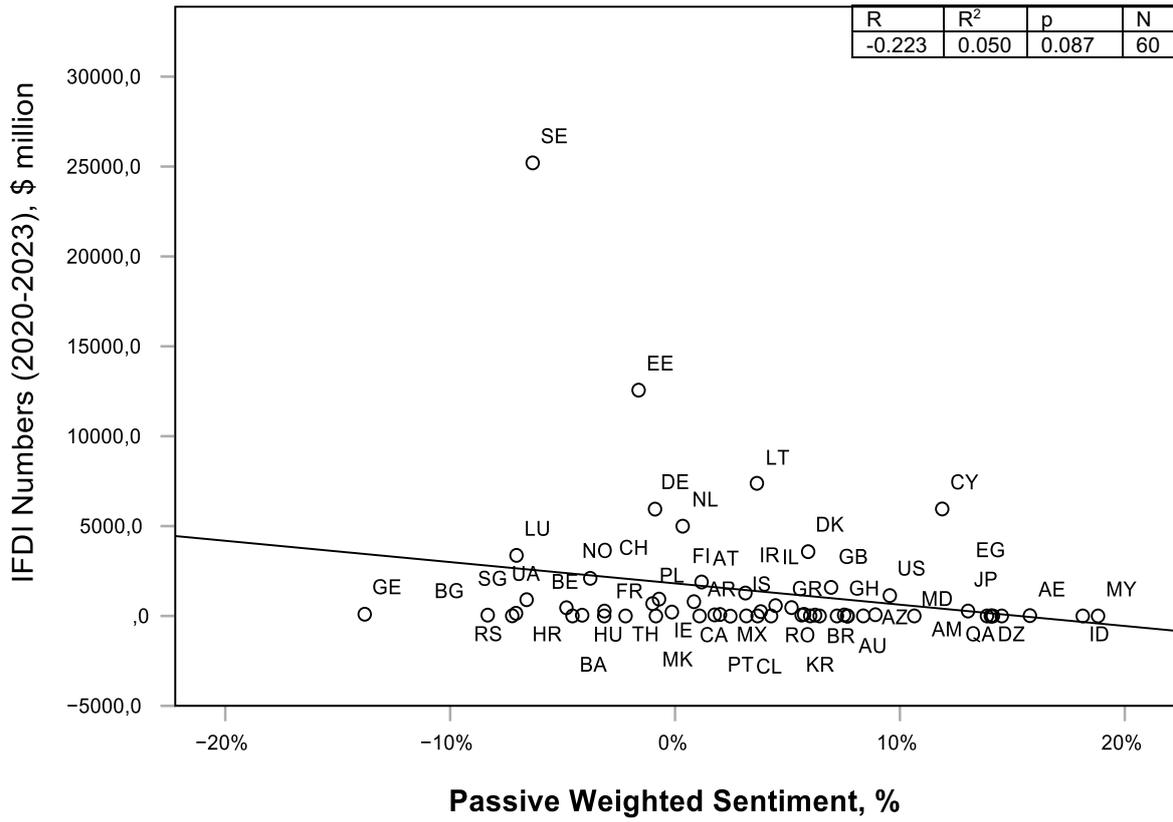


Figure 12. Latvia's IFDI and Passive Weighted Sentiment in 60 foreign regions.

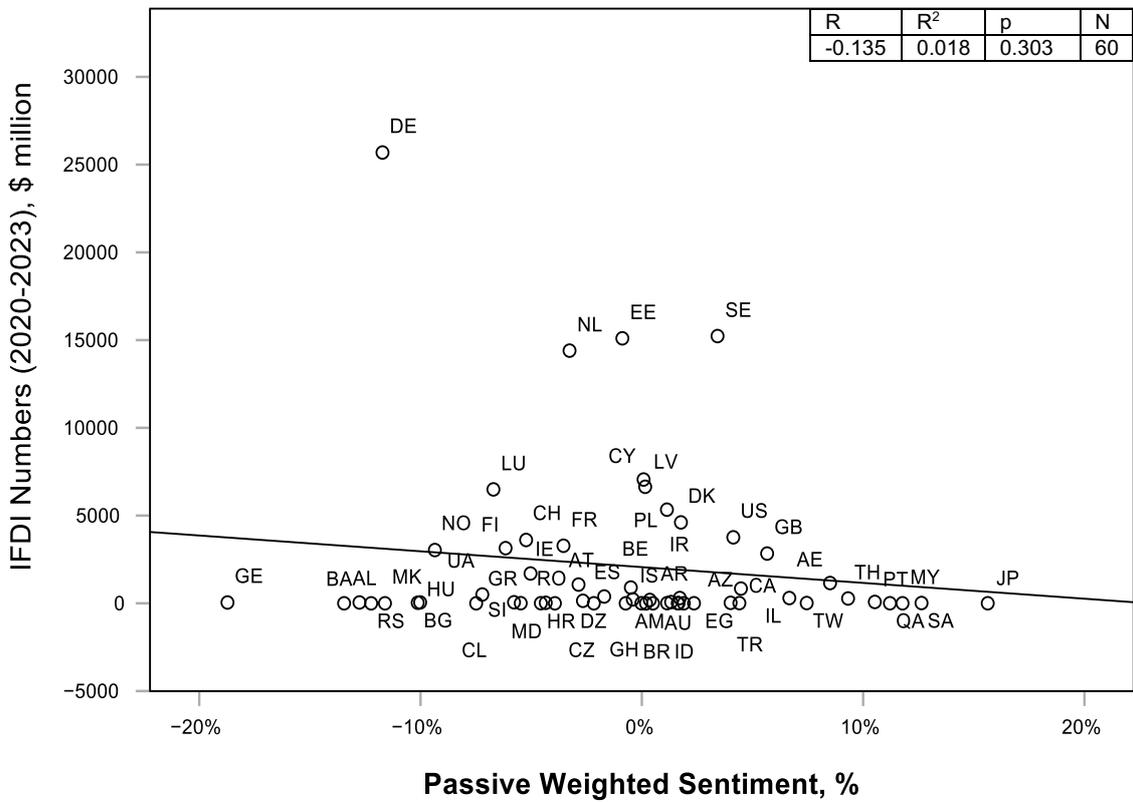


Figure 13. Lithuania's IFDI and Passive Weighted Sentiment in 60 foreign regions.

3.1.3 Media Reach Analysis

Having a qualitative media measure, the quantitative is the countries with the highest reach (which is an approximate number of people that saw the content).

Table 9. Sum reach for each of the Baltic States in foreign media.

Estonia's Mentions		Latvia's Mentions		Lithuania's Mentions	
United States of America	38.3M	United States of America	29.4M	United States of America	48.5M
Great Britain	26.3M	Great Britain	16.7M	France	44.6M
Italy	20.0M	Spain	14.6M	Great Britain	38.7M
Spain	19.2M	Bulgaria	10.1M	Spain	26.8M
Bulgaria	9.8M	Poland	5.4M	Poland	13.7M
...
Slovenia	71.1k	Greece	40.1k	Egypt	17.4k
Norway	61.8k	Thailand	23.7k	Algeria	14.0k
Georgia	41.2k	Cyprus	5.5k	Thailand	12.4k
Luxembourg	10.8k	Iceland	4.6k	Cyprus	10.3k
Iceland	6.6k	Luxembourg	3.5k	Luxembourg	9.8k

Passive media reach (from passive media component mentions that matched FDI narratives) showed a weak but a positive correlation between IFDI numbers and passive reach, signalling at signs of both that countries with higher exposure are more willing to invest more as well as signs of “near-shoring”, when geographically closer countries are willing to invest more (and they have a stronger media coverage). Normalized to the country’s population, this scatter image would possibly show a stronger connection between the metrics.

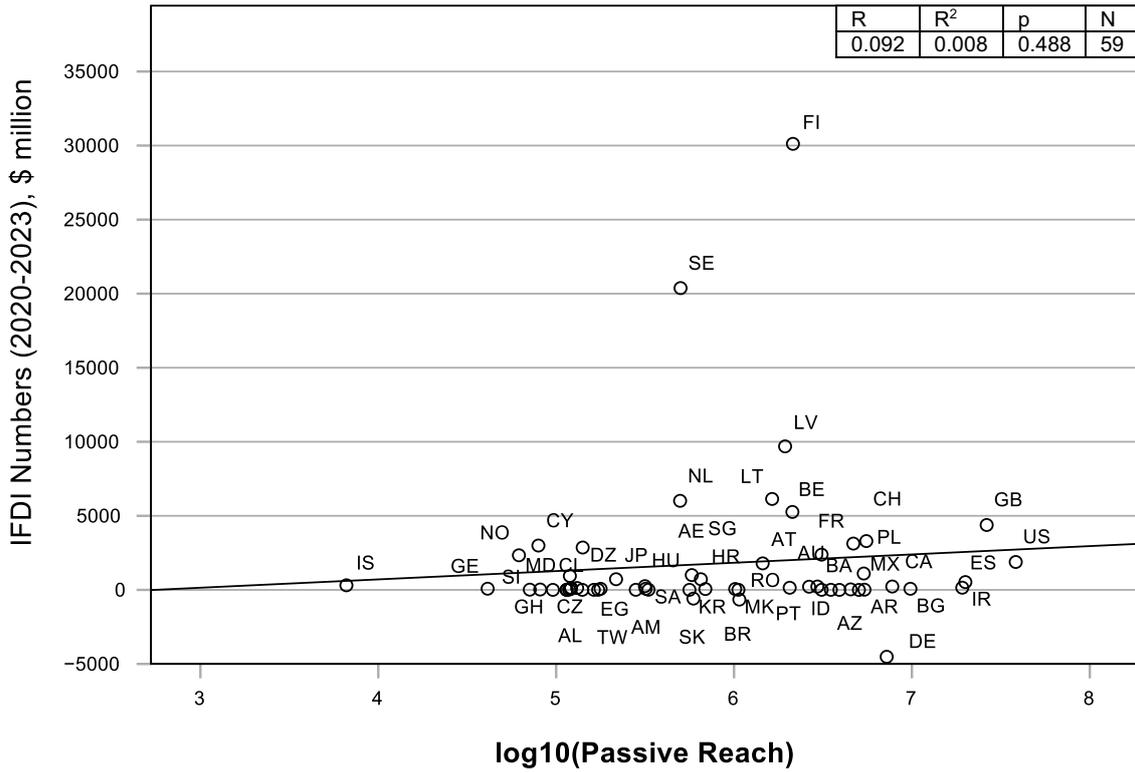


Figure 14. Estonia's IFDI and Passive Media Reach in 59 foreign regions (Luxembourg was excluded as an extreme data outlier for Estonia)

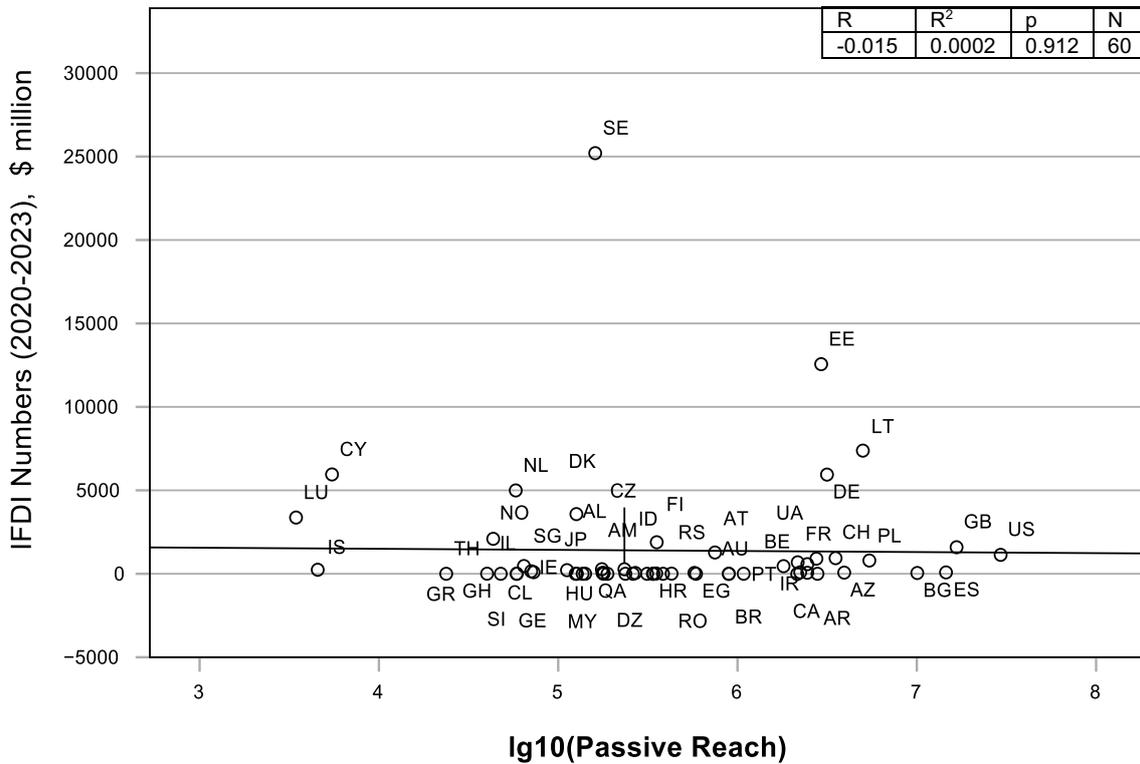


Figure 15. Latvia's IFDI and Passive Media Reach in 60 foreign regions.

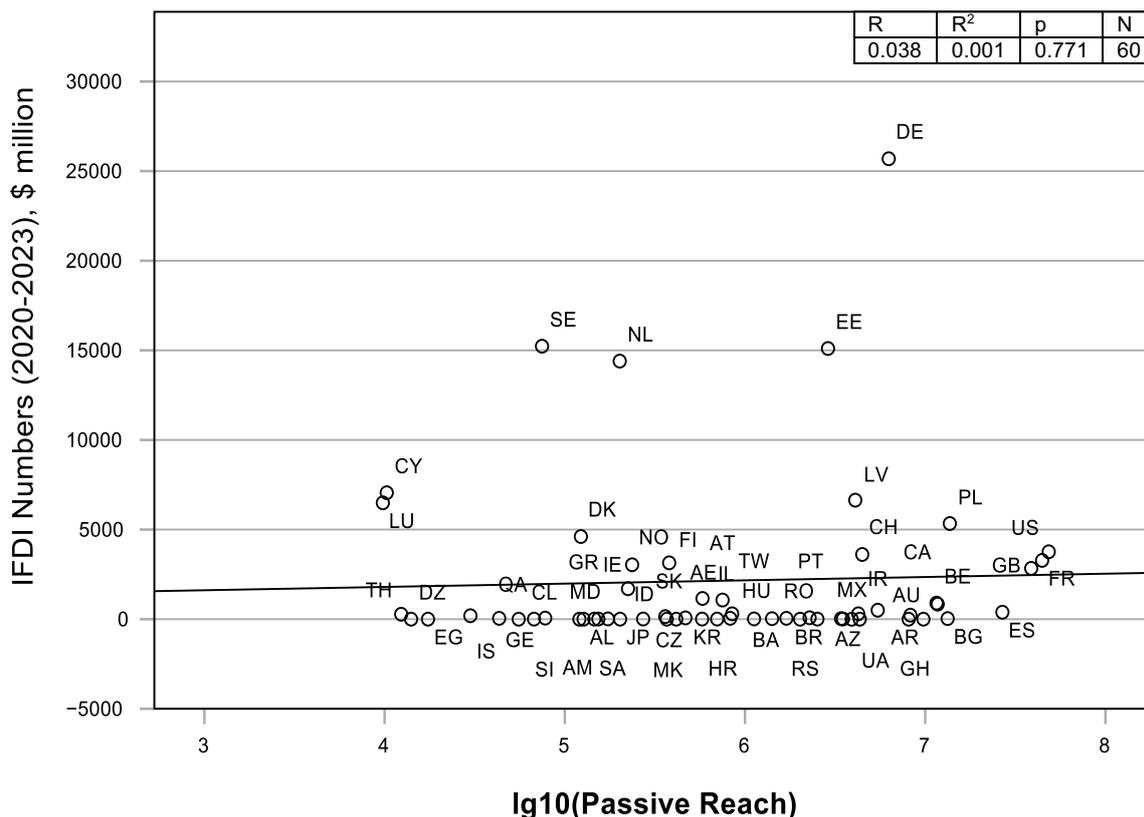


Figure 16. Lithuania's IFDI and Passive Media Reach in 60 foreign regions.

3.1.4 Countries Versus Their Capital Cities

Tallinn was mentioned in 5744 (15.5%) of Estonia's FDI-narratives mentions and was mentioned with a slightly more positive average weighted sentiment score (+3.6% versus +1.0%). Sustainability and quality of life narratives were more prominent when focusing on Tallinn in Estonia. Riga was mentioned in 5423 (21.8%) of Latvia's FDI-narratives mentions and was mentioned with a more positive average weighted sentiment score (+7.9% versus +4.0%). This shows that Riga plays a more important role in Latvia's FDI landscape than Tallinn does in Estonia. Vilnius was mentioned in 7563 (20.9%) of Lithuania's Mentions and was mentioned with a slightly less negative average weighted sentiment score (+1.0% versus -0.9%). Sustainability and quality of life narratives had a bigger share percentage when focusing on capital cities versus countries in general.

3.2 Active Exposure

3.2.1 Google News Data

Using the method of replicating Google search active media exposure to foreign investors, a total of 7083 media articles were collected and analyzed.

Lithuania-related articles were collected in 35 regions, which did not include Lithuania itself; however, the most popular source domain was a Lithuanian domain, *madeinvilnius.com*. This happened because *madeinvilnius.com* portal uses a multilingual slug system that automatically adapts the page's content to multiple languages by using language sub-folders and directing to them through URLs. For example, the same article can be detected in Polish and German searches, and the article URLs contain domains with a language slug (*madeinvilnius.lt/pl/...*, *madeinvilnius.lt/de/...*). This is a smart technique applied not only to improve the user experience of these sites that are focusing on international audiences, but this system also boosts the visibility of the articles in the search system, as this is recognized as one of the SEO techniques. Using this technique can also be beneficial as it allows control of a share of active exposure about the host country in the media by just controlling the content under one domain. Similar systems have been detected in the domains of other capital cities (*tallinn.ee* and *riga.lv*) as well as in portals such as *lrt.lt*, *delfi.lt* and *mfa.gov.lv*.

The FDI-narrative coverage in the active media coverage of Baltic States in Google News (~20.5% for Estonia, ~20.4% for Latvia, and ~22.8% for Lithuania) appeared to be approximately 4 times bigger than it is regarding the passive exposure, where, respectively, narrative coverage reached 6.71%, 4.93%, and 5.84%. This can partially be explained by the share of mentions where Baltic States entities are specifically prominent (brand prominence score reached an average of 85% in active component versus 76% in passive). However, this must also show that the media collected from an active exposure source (Google News) is of a higher FDI-relevance than in the general flow of passive media.

For Estonia, the “Infrastructure, Location & Creativity” narrative did beat geopolitics, followed by the “Quality of life” narrative in 3rd. In Latvia's mentions, the same top two narratives retained their position, followed by distant “Sustainability” and “Quality of Life” narratives in 3rd. Finally, and surprisingly, in Lithuania's mentions, “Geopolitical Stability” narrative fell two places to 3rd and was beaten by “Quality of Life” narrative (being the happiest country for youth) in 2nd and “Infrastructure, Location & Creativity” narrative in strong 1st.

On the other hand, the average weighted sentiment appeared higher compared to passive media exposure (Estonia's +5.3% vs. +1.0%, Latvia's +7.6% vs. 4.0%, and Lithuania's biggest jump in +5.3% vs. -0.9% in passive media). This can be a sign of more reputable media selected by the search engine, which leads to fewer emotional comments.

Although the media sentiment of passive and active media exposure has been examined to show a weak positive dependence in cases of Latvia and Estonia, it has also shown how scattered the results can be and illustrates active media sentiment as a separate segment which needs to be taken care of.

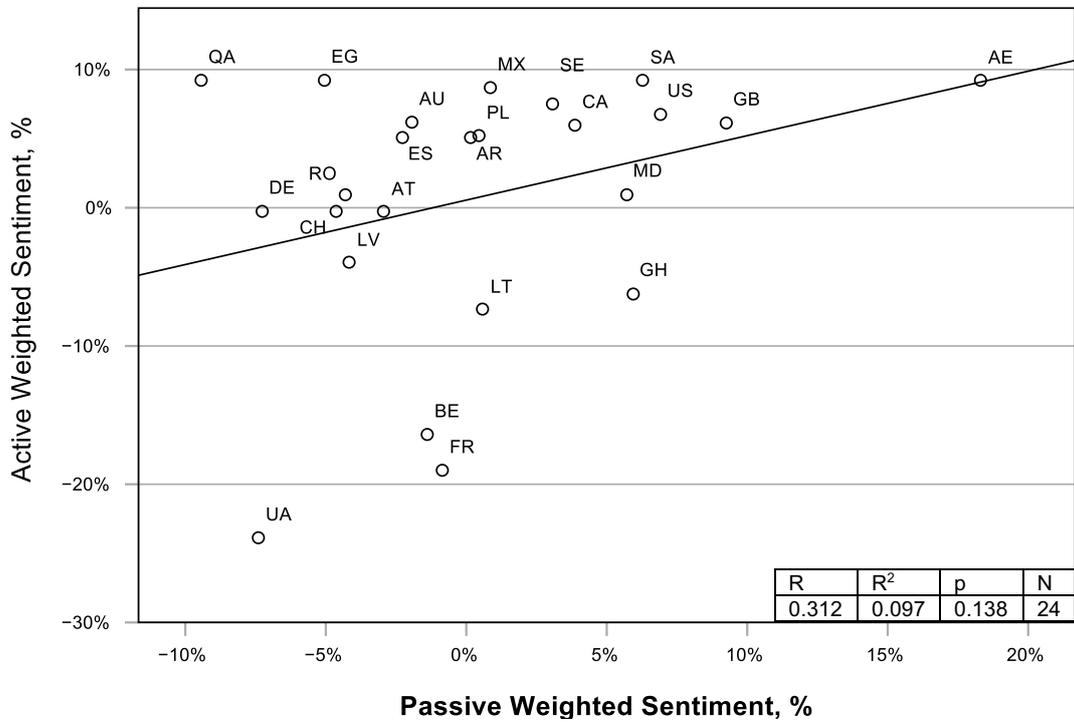


Figure 17. Estonia's Passive and Active media components sentiment in 24 foreign regions.

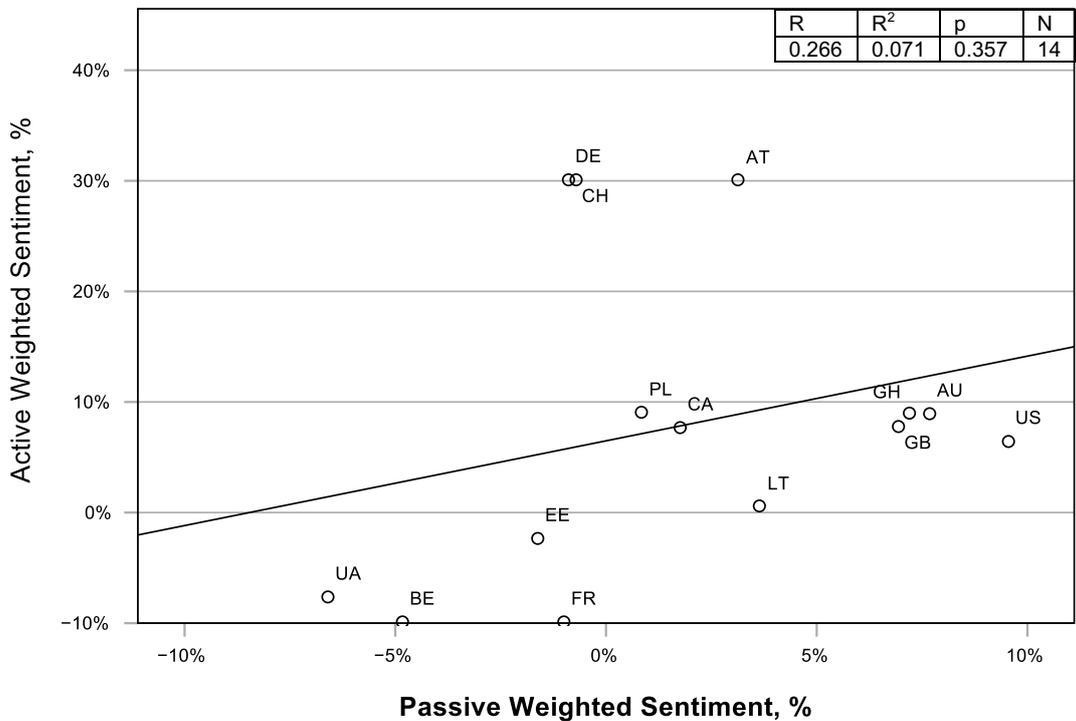


Figure 18. Latvia's Passive and Active media components sentiment in 14 foreign regions.

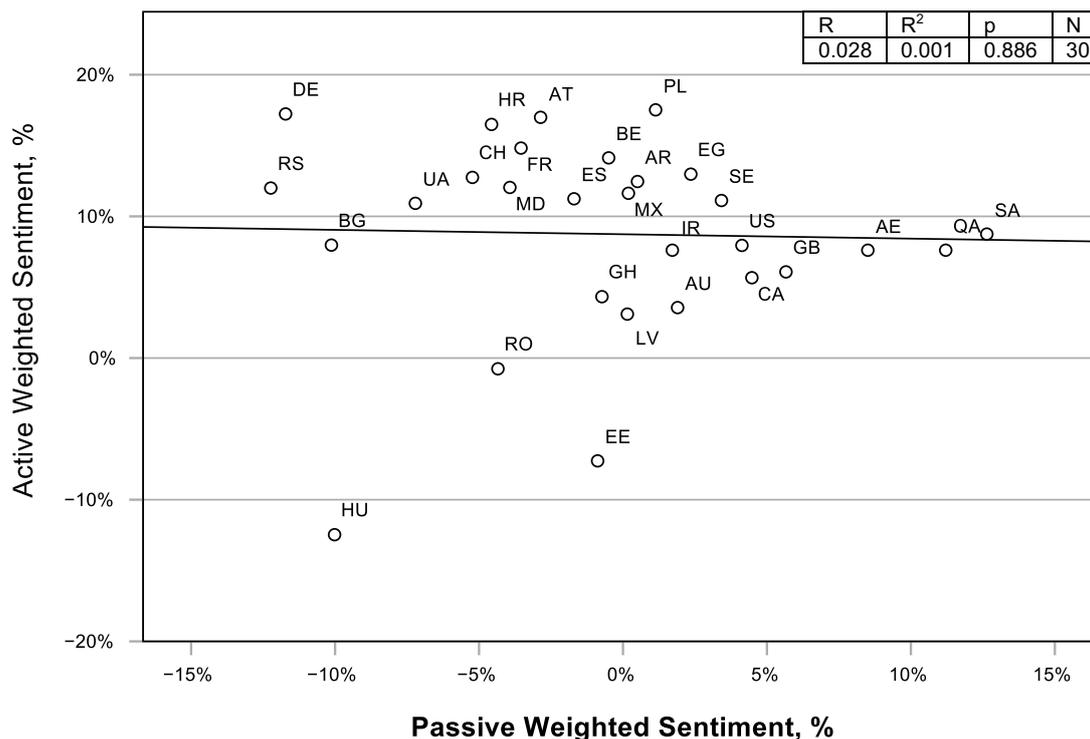


Figure 19. Lithuania's Passive and Active media components sentiment in 14 foreign regions.

Despite the generally more positive landscape, the Google search still contains unfavourable results (Figure 20) and should be constantly monitored and upkept:

Lõunaestlane  **ee**
Aastast 2014

Tel, WhatsApp +37258973482
info@lounaestlane.ee

NEWS ECONOMY TRAFFIC ALARM CRIME NOVEL SPORT OPINION HEALTH NATIONAL DEFENSE

Lithuania still has the highest suicide rate in Europe

Published: October 9, 2025

After decades of decline, the number of suicides in Lithuania has risen slightly in the past two years, with older adults particularly affected, the country's Institute of Hygiene said.

Last year, 566 people died by suicide, compared to 562 people the year before and 527 people in 2022.

Suicide rates in Lithuania remain among the highest in the European Union, almost twice the EU average, reaching 19.6 people per 100,000 inhabitants in both 2023 and 2024.



Figure 20. Article screenshot from (Loounaestlane.ee, 2025)

3.2.2 Responses from Different LLMs

During the next phase of active media exposure research, 10 LLM chatbots (3 ChatGPT models, 2 Gemini models, 2 Claude models, Grok, FinGPT, Fiscal.ai) were put to a test to

reasonably evaluate the investment climate in the Baltic States through the eyes of a foreign investor and rank the countries by willingness to recommend them as an investor destination.

Exercise was conducted on the 23rd of November 2025. Each of the LLMs was interviewed using a prompt in 3 steps:

1. *Hi, I'm evaluating potential investments in the Baltic region. If you had to choose one country that currently offers the strongest investment outlook, which would it be, and why? Keep reasoning to two sentences and provide links to sources used.*
2. *Thank you. If I couldn't invest in your first choice, which Baltic country would you rank second? Keep reasoning to two sentences and provide links to sources used.*
3. *What concerns led you to place (Country name) third out of the three? Keep reasoning to two sentences and provide links to sources used.*

Each of the 10 LLMs ranked the Baltic States and provided arguments with sources cited to support their decision (full responses from LLMs and their model specifics are provided in Appendix 3). After the exercise, a score system was applied to rank the Baltic States based on the LLMs' recommendations:

Table 10. Scoreboard of LLMs ranking investment climate in the Baltic States.

Baltic State	1st place (3 points)	2nd place (2 points)	3rd place (1 point)	Total points	Ranking
Estonia	1	5	4	17	2
Latvia	1	3	6	15	3
Lithuania	8	2	0	28	1

As it emerges from these exercises, Lithuania is strongly the most recommended Baltic State by LLMs. Out of 10 models tested, only FinGPT (the finance sector's customized solution of ChatGPT-5.1) rated Estonia over Lithuania, and the legacy model ChatGPT-4o ranked Latvia over Lithuania, although this latter model has an older knowledge cut-off date (2023 October) and is therefore less reliable during analysis of newer sources.

As per the reasoning of selected rankings, LLMs did not mention 3 out of 11 FDI-narratives (sustainability, corruption, quality of life), signalling either a change in priorities of foreign investors or that the Baltics are too familiar with these narratives and cannot be strongly compared with each other.

Table 11. Number of detected FDI-narratives citations in LLMs' reasoning to rank Baltic States.

Narrative	Citations
------------------	------------------

Price & Tariffs	3
Supportive Policies & Ease of Doing Business	15
Innovation in Strategic Industries	12
Geopolitical Stability	9
Predictive Politics	3
Sustainability	0
Corruption	0
Talent Pool	10
Domestic Market	28
Infrastructure, Location, Connectivity	7
Quality of Life	0

Domestic market narrative, especially in terms of GDP dynamics, inflation factors, number of investment projects, and forecasted market growth, was cited in almost every paragraph available, showcasing the importance of information about market size presence in the online media. The second most popular narrative was about supporting policies. Although this narrative might not be that popular in the media's passive exposure component, it is a strong indicator for LLMs, and therefore, even if the passive exposure created is weak, the presence of correct information on incentives, taxes, and policies is crucial for the active exposure component in the LLMs. Finally, the 3rd most popular narrative was about strategic industries, and the importance of this narrative is projected to be even stronger, as investors will likely give more context to LLMs, and instead of asking which Baltic State is the best, they might ask which Baltic State is the best option to invest in fintech.

LLMs cited (or provided as reference) a total of 179 links (without deduplication). The following is the share of these citations by their source domain origin category:

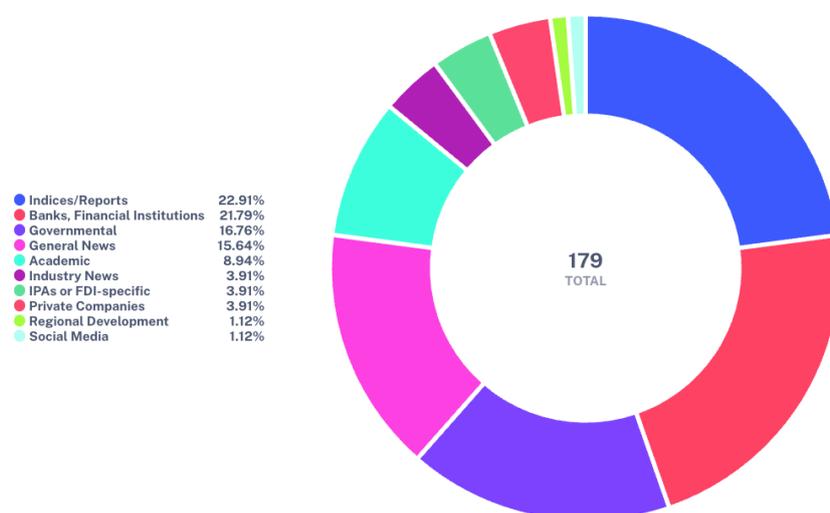


Figure 21. Share of LLMs' cited links by their domain origin category.

Complete list of domains, their categories, and the number of citations is provided in Appendix 4. Figure 21 introduces observations that information from different printed indices or industry reports is relevant here, as evidenced by oecd.org (12 citations), ey.com (10 citations), and ficil.lv (6 citations) was among the popular domains. Information provided in the sources of financial and governmental institutions really does matter for LLMs as well, and these are the sources where countries can really control the narratives. Finally, while classic passive media exposure also accounted for ~20% of the cited sources here and was derived from various regions, information from IPAs did not play a crucial role, with Latvian IPA not cited at all, and Estonian/Lithuanian IPAs were cited just 3 and 2 times, respectively, possibly because of the lack of relevant information or right methodologies of managing it. This method to assess IPAs visibility through the lens of LLMs should be investigated further and included in indices such as the [investment promotion report by Emerging Europe](#).

3.2.3 Google Search Volume

Active media exposure is constructed both from the media and public avatars. Media avatar provides the data in search engines and, with the help of many tools and algorithms, offers people a set of results to best fit their interests. Public avatar represents the interest shown in particular searches, which frankly is a product of passive media exposure.

To fully understand the magnitude of this interest in one or another country, the quantitative data, Google (as the primary search engine) search volume data was collected about each of the Baltic States from the perspective of foreign people. The data was collected using a 3rd party SEO toolset, *Ahrefs*, which provides the data of search volume of a given SERP and world region. The GSV metric shows an estimation of the average monthly number of searches for a keyword over the latest known 12 months of data. Each of the research's 6 entities was tested in 61 countries in the native and English languages for a total of 732 data points collected. Full data collected is provided in Appendix 6.

GSV showed a stronger positive correlation with FDI numbers than passive media reach did, suggesting the even stronger importance of monitoring active media exposure signals (passive exposure signals are not far less important as they influence the active exposure itself).

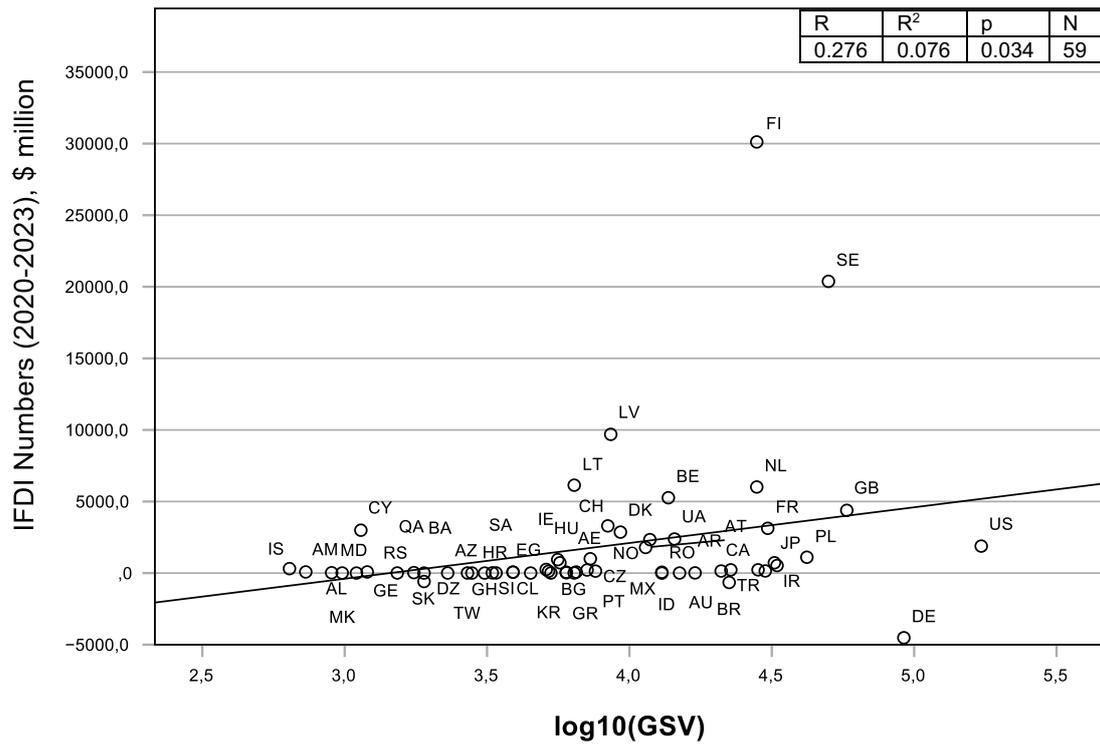


Figure 22. Estonia's IFDI and GSV numbers in 59 foreign regions (Luxembourg was excluded as an extreme data outlier for Estonia)

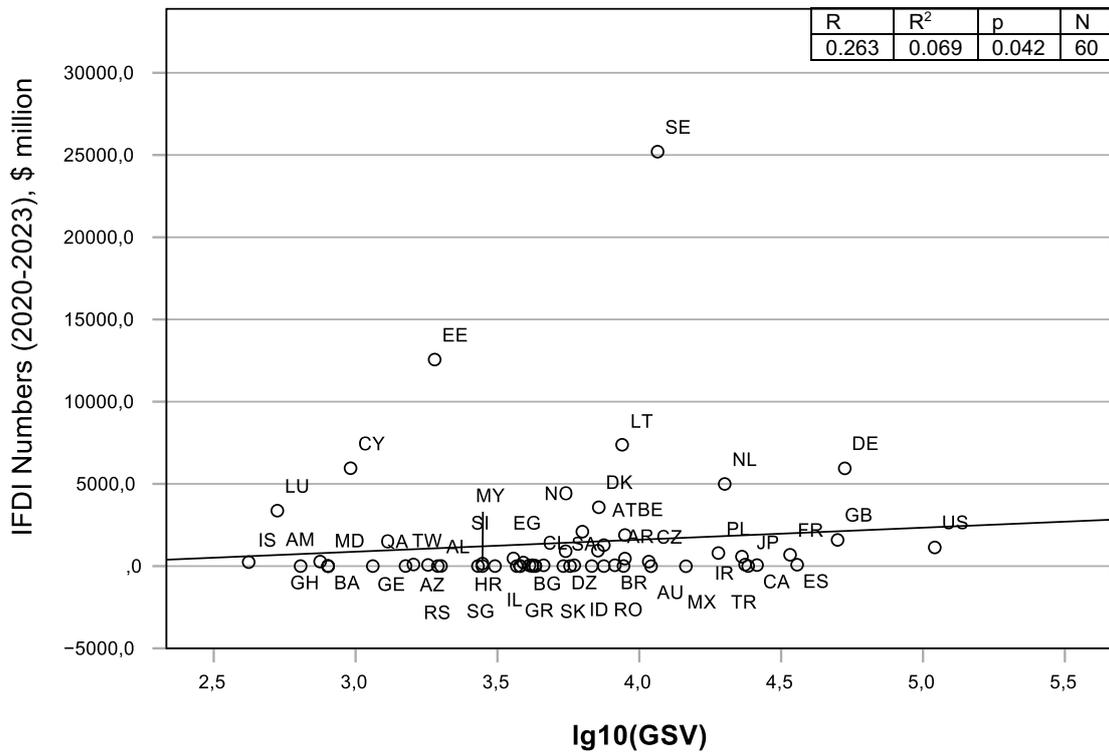


Figure 23. Latvia's IFDI and GSV numbers in 60 foreign regions.

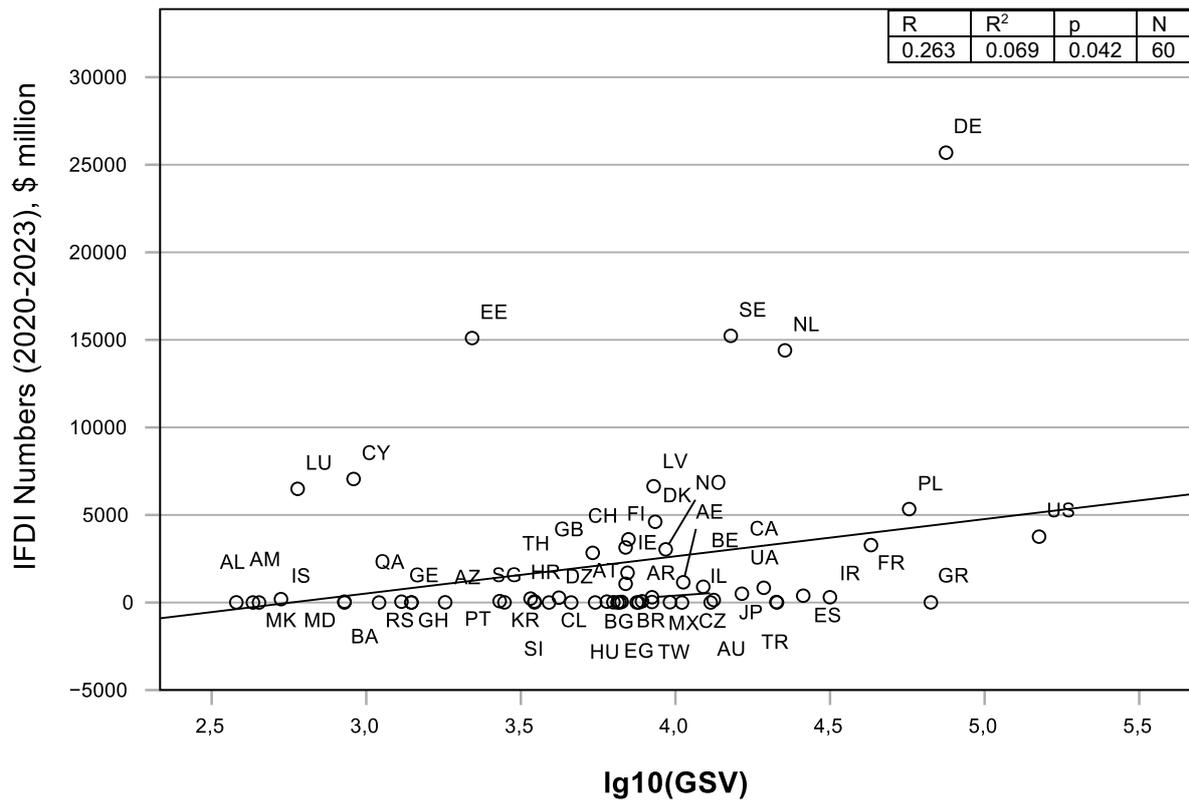


Figure 24. Lithuania's IFDI and GSV numbers in 60 foreign regions.

The connection between passive media reach and GSV was estimated to be strong (Figures 25-27), suggesting equilibrium between media supply and demand; however, each shift in this equilibrium can suggest a change in the dynamics of IFDI or that passive media exposure is not living up to its standard to provoke active actions.

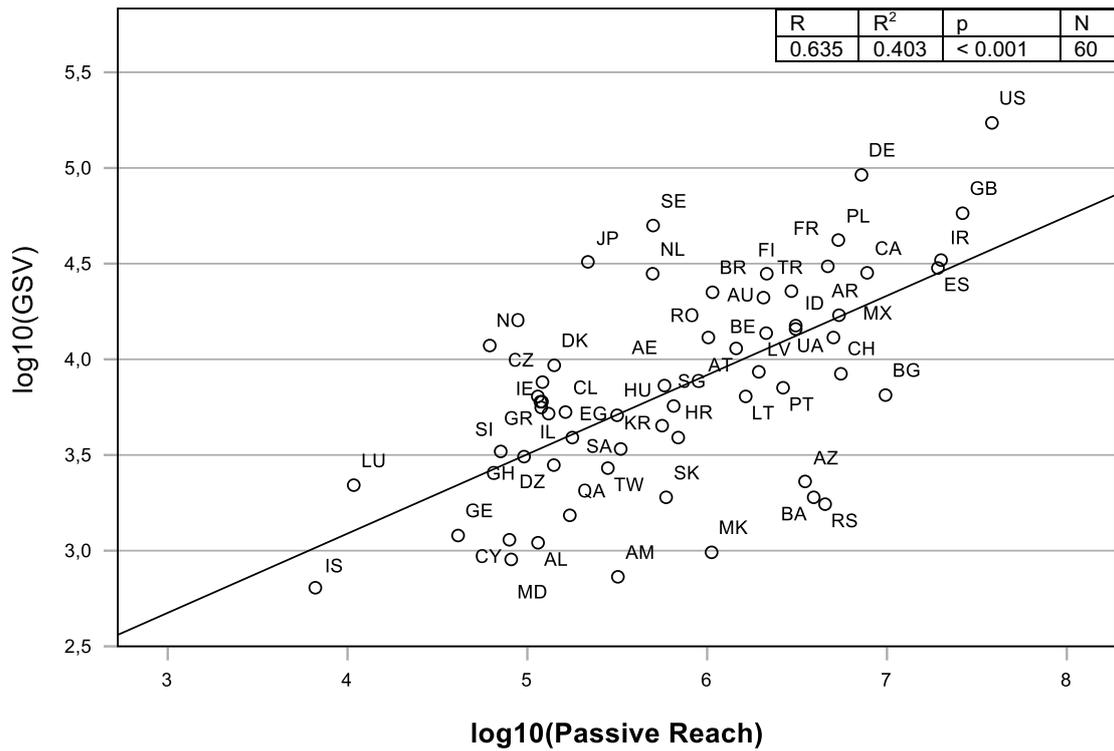


Figure 25. Estonia's Passive media reach and GSV numbers in 60 foreign regions.

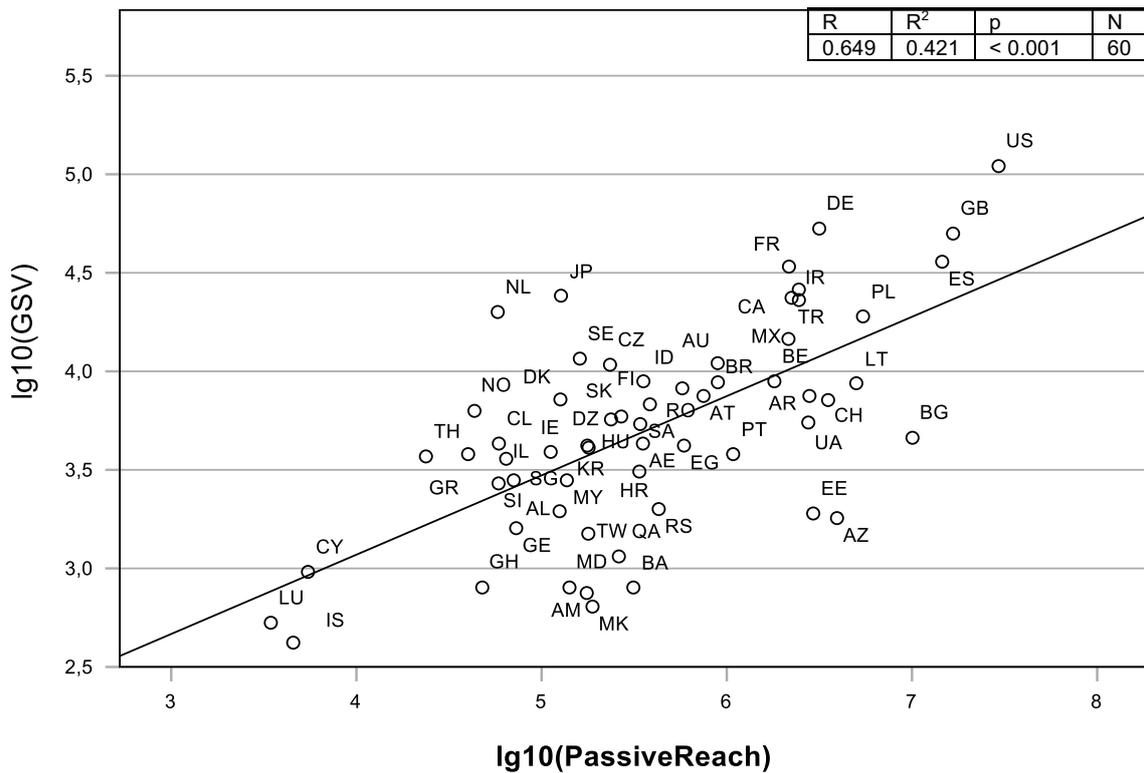


Figure 26. Latvia's Passive media reach and GSV numbers in 60 foreign regions.

happened because of the relatively low reach of FDI mentions (57.4M versus Estonia's 101.3M and Lithuania's 108.3M). And even though Estonia was close second to Lithuania in terms of media reach, the communication effectiveness of Lithuania (27.6M) took the 1st price and is leading from Estonia by a significant margin (Estonia's communication effectiveness was calculated at 19.7M). In other words, FDI narratives analysis in media can work as an index that provides the absolute value, and in the first 10 months of 2025, it rated Lithuania first in the Baltics, followed by Estonia in 2nd place and Latvia in 3rd place.

Of course, using the F-DIverse method just as a one-off yearly index sort of beats the purpose of reporting real-time that it was created for. However, being adaptable as a yearly index is an advantage that could lead to simpler adaptation of the method. Indeed, it has similarities with other indices, although the nature of narrative analysis is more complicated than survey topics and it is not relying on any hard factors/numbers, but it still a relative to NECI's Entrepreneurial Framework Conditions, FICIL sentiment index investment environment factors, Brand Finance soft power index pillars, the indicators from Europe's innovation scoreboard or IMD world competitiveness ranking. Tracking media mentions of all countries can be pricy, but in the future, F-DIverse method could expand to cover the media mentions of countries from the Emerging Europe circle. The training of existing and inclusion of new narratives would have to be an iterative exercise for quality control, and the importance of active media exposure indicators has shown that this index should focus more on the content that appears upon browsing.

CONCLUSIONS AND RECOMMENDATIONS

This master's thesis investigated the potential linkage between real-time media sentiment and spread signals with the attractiveness of foreign direct investment (FDI), as well as the feasibility of employing these signals in a practical monitoring approach for investment promotion agencies (IPAs) in the Baltic States. Combining both theoretical analysis and practical research, the following conclusions and recommendations are presented.

Conclusions

1. The research fulfilled its primary objective by developing and testing a real-time, perception-based approach to assessing the country's attractiveness in terms of foreign direct investment. The findings show that media exposure, its sentiment, and AI-mediated intentional information search tools can be systematically integrated into an applied monitoring framework that complements traditional FDI indicators, especially in small and open economies such as the Baltic States.
2. The thesis built a structured analytical framework based on FDI-relevant narratives, facilitating the identification of investor-oriented content within large international media datasets, as FDI narratives covered only ~6% of media. These narratives represent a distinct, measurable subset of the broader media environment and can be leveraged to extract targeted, investment-relevant reputation signals.
3. The empirical analysis demonstrates that active perception indicators, including search-driven visibility and LLMs, align more closely with investment-relevant attention patterns than passive media exposure. This suggests that investor discovery often occurs in active, intent-driven environments, underscoring the need to monitor them.
4. The results unveil a strong connection between passive media exposure and active attention, suggesting that general media coverage shapes information-seeking behavior rather than directly influencing investment outcomes. This validates the analytical value of integrating a unified active + passive exposure monitoring framework.
5. The experimental analysis of outputs by large language models has shown that they currently can act as an information source and investment advisor that is currently less predictable than traditional sources, highlighting the importance of monitoring and managing AI-mediated perceptions.
6. Applying the proposed framework comparatively across the Baltic States revealed distinct reputation profiles. Latvia appeared with the most positive media sentiment in

international media but demonstrated the weakest overall communication effectiveness when both reach and prominence were considered. Meanwhile, Lithuania achieved the strongest performance in the model and was identified as the leading investment destination by LLMs, ranking first in most tested systems. The consistency between the thesis media model and LLMs assessments enhances confidence in these findings.

7. The F-DIverse framework demonstrates practical applicability, enabling cross-country benchmarking and continuous FDI reputation tracking, thereby fulfilling the objective of providing a tool suitable for use by IPAs as an alternative to existing indices.

Recommendations

Based on the research conclusions, the following recommendations are proposed.

Practical recommendations

1. IPAs are encouraged to supplement traditional reporting and annual indices with continuous, real-time monitoring systems, such as F-DIverse integrated with media monitoring tools, to track FDI-relevant narratives, sentiment dynamics, and exposure. Implementing such a system would enable IPAs to identify emerging risks and opportunities earlier and respond more rapidly.
2. IPAs should prioritize active exposure environments, such as search engines, curated news platforms, and AI-generated responses, as these channels tend to present more investment-relevant information than passive media streams. Regularly auditing the country's representation in these environments and collaborating with SEO specialists could enhance the effectiveness of targeted communication strategies.
3. IPAs should ensure the availability and organization of authoritative, up-to-date online content regarding investment conditions, incentives, strategic sectors, and policy frameworks. Enhancing the clarity, consistency, and accessibility of this content may increase its visibility to both human investors and AI-driven systems.
4. The findings indicate that capital cities play a distinctive role in shaping national investment narratives. IPAs should consider leveraging capital city or technology hub branding more strategically as an entry point for communicating broader country attractiveness, particularly in narratives focused on talent, innovation, quality of life, and connectivity.
5. As only a small proportion of media coverage directly pertains to FDI, IPAs are advised to concentrate their 'hero stories' communication and reputation management on a select

set of high-impact narratives tailored to priority investor markets, while continuing to monitor broader geopolitical and macroeconomic topics.

Theoretical and future research recommendations

1. Future research should re-evaluate the proposed monitoring framework when inward FDI data for 2025–2026 becomes available. Enhanced temporal alignment between perception indicators and realized investment flows would facilitate deeper analysis of lagged effects and provide stronger validation of observed relationships.
2. Further studies should consider alternative research designs, including lagged models, event-based analyses, or more comprehensive cross-country comparisons beyond the Baltic States, to better distinguish between association and causality in the relationship between perception signals and investment outcomes.
3. Additional research should expand the analysis of AI-generated investment narratives by testing a wider range of investor scenarios, sector-specific prompts, and the longitudinal stability of AI outputs. This would improve understanding of how national investment images evolve within AI-mediated information.
4. This research agenda should be advanced in response to emerging technologies, particularly by introducing AI personas to simulate potential reactions of foreign investors to various communication strategies and action plans.

Limitations to consider

The results of this thesis should be considered in light of several limitations. First, media and digital perception indicators were measured at high frequency for 2025, whereas inward FDI data reflects earlier investment decisions due to structural reporting lags. This temporal misalignment limits the strength of correlation-based validation at this stage but does not diminish the framework's utility as a monitoring and early-warning tool. Second, the analysis does not assert causal relationships between event-perception signals and FDI outcomes; instead, it focuses on identifying meaningful associations and practical patterns. Finally, data availability and platform-specific algorithms may affect media and search visibility, which should be taken into account when interpreting the results; also, expanding the research to a bigger set of countries with bigger media exposure than the Baltics could require strategically higher resources.

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APPENDICES

Appendix 1: Narrative Supporting Arguments Found in Literature

FDI attractiveness narratives with relevant citations and their sources:

Narrative	Narrative Descriptors
Price & Tariffs	<ul style="list-style-type: none"> • Reducing energy prices. Identified by businesses (Energy prices are central: electricity costs are 2.5× US and natural gas 5× US, pushing Europe down in rankings) [EY Attractiveness survey 2025] • Labour costs were inversely and significantly correlated with US outward foreign direct investment (OFDI)” [Ren (2024)] • Tarrifs or other barriers to trade. Among top 3 risks to Europe’s future attractiveness [EY Attractiveness survey 2025] • Companies are now far more wary of exposure to countries that could face sanctions, export controls, or political instability. Studies confirm that rising geopolitical risk deters FDI flows, especially in strategic sectors [Bussy et al (2023)] • Shape a new approach to trade. Should US tariffs on imports from Europe settle at 10%, some manufacturing would likely move permanently to the US. Nevertheless, global businesses would likely want to retain a footprint in Europe, allowing them to benefit from regionalized supply chains. Europe should respond to this uncertainty in two ways. First, it should seek to reduce barriers to trade within the EU Single Market. [EY Attractiveness survey 2025] • Recent surveys of investors in the Baltic states, for example, praise the high quality of IT education and favorable cost-to-quality ratio of labor in Latvia and Lithuania [FICIL Sentiment Index 2024] • “Low production costs” as some of Latvia’s economic drivers [Brent (2024)] • Country’s Inflation and income tax rates levels, research and development costs and labor costs affects FDI [Činčikaitė, Meidute-Kavaliauskiene (2023)]
Supportive Policies & Ease of Doing Business	<ul style="list-style-type: none"> • Identified by businesses, there is a need to support SME (small-medium economies). [EY Attractiveness survey 2025] • Estonia’s public institutions were less cumbersome and more welcoming to investors, whereas Latvia and Lithuania struggled longer with bureaucratic hurdles and corruption issues. Good policies, Investor-Friendly Tax Policy. [Grigonytė (2010)] • All three Baltic states share common narrative elements – they stress their ease of doing business [FICIL Sentiment Index 2024] • Considerably smoother contract enforcement, stimulate FDI inflows, while ineffective institutions and lack of legal services deter FDI inflows [EY Attractiveness survey 2025]. • The composite institutional impact indicator, which is constructed by combining different dimensions of institutional variables, such as bureaucracy, corruption, political instability, and the effectiveness of the legal system, indicates that certain combinations can have either a positive or a negative effect on FDI inflows [EY Attractiveness survey 2025]. • Between 2019 and 2024, the EU implemented 13,000 legislative acts, compared with 3,500 in the US.²⁷ This has led to significant regulatory overlap and inconsistency between and within individual countries, regions and cities, hindering agility, innovation and investment. [The Baltic Times report (2011)] • Reduce tax complexity and unpredictability. Europe’s tax environment increasingly influences its attractiveness for FDI. Our survey indicates that 45% of respondents believe Europe’s tax approach over the past three years has diminished its appeal as an investment destination [Reuters (2013)] • German side delivered an unusually blunt letter detailing ten major problems undermining Latvia’s investment climate (e.g. dishonest courts, unfair procurement, tax evasion). Several German companies recounted how their attempts to invest had failed due to these issues [O’Dwyer, Global Finance article (2025)] • Chevron withdrew from the project, explicitly citing “significant changes to the fiscal, legislative and regulatory climate” introduced after its bid. In other words, new taxes and

	<p>unclear regulations on shale extraction were imposed mid-process, eroding the deal’s commercial basis. Lithuanian officials admitted there was a “lack of regulatory clarity,” as Parliament was still debating law amendments even after the tender. [Reuters (2013)]</p> <ul style="list-style-type: none"> • In Vilnius Thermo Fisher’s decision to reinvest in Lithuania – where it had established a large presence by acquiring a local biotech firm – was driven by the strong local talent pool and formed a cornerstone of Lithuania’s strategy to grow its life sciences sector [Irwin-Hunt, FDI Intelligence (2021)] • A magnet for FDI (again about Latvia): Location, business-friendly regulations, and a skilled workforce make Latvia attractive for FDI [O’Dwyer, Global Finance article (2025)] • Regulatory reforms – e.g. liberalizing land and energy markets – have improved the business climate. [La Moncloa (2024)] • Host countries can attract foreign investment by offering incentives to invest overseas, for example, in natural resources [Ren (2024)]. • Protection of intellectual property rights, political stability, a reduced incidence of corruption, and a greater degree of regulatory certainty... attract greater levels of foreign direct investment [Ren (2024)]. • Macro reforms (like tax incentives or liberalization) alone are not enough. Without institutional reform (rule of law, governance, transparency), FDI inflows stay limited and volatile. Perceptions of institutional quality are crucial for FDI. [Buchanan et al (2012)] • “We find that good institutional quality matters to FDI. We provide evidence that institutional quality has a positive and significant effect on FDI.” [Buchanan et al (2012)] • While perceived investment attractiveness is relevant, it is not the sole determinant of FDI. There are more objective factors at play, such as policies and infrastructure. [Jagodziniski, Emerging Europe report (2024)] • Studies in nation branding tie good governance and efficient regulation to improved investment reputation [Mohib, Carroll (2024)] • In practice, investors take note of such advantages. For instance, Estonia is noted for its clear regulations, transparency, and digital governance (its e-services offer flexibility in doing business). Likewise, Latvia’s recent investment promotions highlight its tax reforms (e.g. a 0% tax on reinvested profits) as bolstering its appeal to foreign investors. These factors reinforce a narrative that the country welcomes and facilitates investment. [FICIL Sentiment Index 2024] • “Investment Incentives”, “Tax system”, “Legal system” as some of Latvia’s economic drivers [Brent (2024)] • Country’s Ease of doing business, trade openness, property rights, regulatory quality, rule of law, affects FDI [Činčikaitė, Meidute-Kavaliauskiene (2023)]. • Lithuania’s co-operative state institutions and local authorities, flexible regulation environment, generous tax incentives are among the main reasons why an increasing amount of international companies choose to invest in Lithuania. For the continued success at attracting FDI, Lithuania needs pursuing more stable and predictable internal and external policies. International investors usually say that one of the factors that helped them to make a decision to invest in Lithuania is a very positive and flexible approach from central government, local authorities and state institutions [Karčiauskas, China CEE Institute (2023)] • A2. Ease of Access to Entrepreneurial Finance: and those funds are easy to access. B1. Government Policy - Support and Relevance: policies promote and support startups. B2. Government Policy - Taxes and Bureaucracy: new businesses are not over-burdened. C. Government Entrepreneurial Programs: quality support programs are widely available. [GEM 2023/2024 Report]
Innovation in Strategic Industries	<ul style="list-style-type: none"> • European Innovation Council to invest €1.4 billion in deep tech and scale up of strategic technologies in 2025 [European Commission (2024)]. • From 2012–2023, ~72% of digital-economy FDI inflows went to information & communication; manufacturing (e.g., semiconductors) is smaller but rising and concentrated in few host countries [UNCTAD (2025)]. • AI and green transition are seen as Europe’s “future hooks” for FDI attractiveness (e.g., Microsoft AI R&D in Ireland, AstraZeneca in Spain) [EY Attractiveness survey 2025]. • There is a growing recognition that government intervention and collaboration with business are needed to protect critical industries and reduce dependency on unreliable

	<p>countries for imports of certain goods and components. For example, the supply of critical raw materials used in strategically important industries such as clean energy and automotive comes from a very small number of providers, exposing European businesses to price volatility and shortages [EY Attractiveness survey 2025].</p> <ul style="list-style-type: none"> • Denmark’s stable, well-governed economy and strong innovation ecosystem make it attractive. Denmark has aggressively advanced digitalization (e-government, fintech) [Lloyds bank report (2025)]. • Besides spending less on R&D, Europe also continues to lag in applied research and in the translation to marketable products. The continent filed fewer patents than other regions in key fields such as information and communication technologies (ICT), pharmaceuticals, biotechnology and electronics. And, while Europe is home to many of the world’s leading universities, only a small number are world-leading in terms of research [Irwin-Hunt (2023)]. • “It’s a good opportunity, because now everyone is speaking about military industries,” she says, adding that Latvian companies are benefitting from being part of the supply chains of major international defence companies [EY Attractiveness survey 2025]. • Embracing innovation and technology is shown to bolster a country’s attractiveness by fostering a perception of dynamism and progress. Studies have found that nations with “solid and dynamic brands” tied to innovation can more easily attract companies in information industries and increase FDI inflows [Payton (2025)]. • Research on nation branding notes that countries promoting their tech innovation (digitalization, 5G infrastructure, etc.) cultivate an image of being forward-thinking, which can draw investment in high-tech sectors [Dineri et al. (2024)]. • “Innovation ecosystem - cooperation between government, business and universities”, “Science, technology and innovation” as some of Latvia’s economic drivers [Brent (2024)]. • Shape a new approach to trade. Should US tariffs on imports from Europe settle at 10%, some manufacturing would likely move permanently to the US. Nevertheless, global businesses would likely want to retain a footprint in Europe, allowing them to benefit from regionalized supply chains. Europe EU should seek to boost trade with countries outside the single market by simplifying trade compliance requirements where possible, particularly for small businesses [EY Attractiveness survey 2025]. • E. Research and Development Transfers: researchy is easily transferred into new businesses [GEM 2023/2024 Report].
Geopolitical Stability	<ul style="list-style-type: none"> • Bulgaria’s Belene Nuclear Power Plant saga exemplifies how corruption and geopolitical wariness can derail an investment. The Belene project (a planned €10 billion, Russian-built NPP on the Danube) was initially started in the 2000s but struggled to find Western investors due to Bulgaria’s reputation for graft and the project’s ties to Russia [Reuters (2016)]. • While the official reason given was a pandemic-related market slump, VW had earlier put the project on hold amid international outrage over Turkey’s military operation in Syria – a clear sign that Turkey’s political actions hurt its image and scared the company’s board [Reuters (2020)]. • Companies are now far more wary of exposure to countries that could face sanctions, export controls, or political instability. Studies confirm that rising geopolitical risk deters FDI flows, especially in strategic sectors [Bussy & Zheng (2023)]. • A striking recent pattern is the emergence of “friend-shoring” and “near-shoring” strategies: firms are redirecting investment to countries that are politically allied or geographically closer to home to reduce risk. Over 70% of European multinationals surveyed by the ECB in 2023 said they are shifting production to either nearby or politically friendly countries, or diversifying supply bases, in response to geopolitical tensions [Grover & Vezina (2025)]. • Studies so far show that the war in Ukraine has had a limited impact on investors’ confidence in CEE in the longterm, even if there were some short-term negative effects; for example, with Bulgaria and Estonia experiencing negative FDI inflows and the latter experiencing the deepest recession in the EU in 2023 [GMF (2025)]. • All three Baltic states share common narrative elements – they stress their membership in the EU/NATO (geopolitical stability) [Lloyds bank report (2025)]. • A “clear and confident foreign policy narrative” that reassures investors of the country’s security and alignment with strong allies is considered essential in the Baltic region This

	<p>means Baltic governments communicate their commitment to NATO/EU and preparedness for any security challenges, to counter investor concerns and reinforce confidence in long-term stability [FICIL Sentiment Index 2024].</p> <ul style="list-style-type: none"> • The prime minister is keen to stress that, despite the threat from Russia, Latvia is generally safe. A major investor delegation from the US were “shocked how safe they felt on our streets”, she says. “Nato is here,” [Payton (2025)]. • Contradictions in perception vs. reality: Countries with weak reputations (Ukraine) can still get FDI inflows, often for geopolitical or resource-driven reasons [Iloie (2015)] • “Defence” as some of Latvia’s economic drivers [Brent (2024)]. • Another weakness of Lithuania may be sometimes unpredictable foreign policy, regularly changing laws and taxation system. In recent years, Lithuania has made different rather unexpected foreign policy changes towards Belarus, China, Russia and some other countries that have had negative impact on bilateral trade with the aforementioned countries [Karčiauskas, China CEE Institute (2023)]
Predictive Politics	<ul style="list-style-type: none"> • Top 3 risks to Europe’s future attractiveness (The rise of populist movements poses a particular challenge, often leading to more nationalist policies, protectionism, and pressure on governing institutions — all of which heighten unpredictability for international investors.) [EY Attractiveness survey 2025]. • Investors want assurance against expropriation, corruption, or chaotic rule changes [Okada (2013)]. • The composite institutional impact indicator, which is constructed by combining different dimensions of institutional variables, such as bureaucracy, corruption, political instability, and the effectiveness of the legal system, indicates that certain combinations can have either a positive or a negative effect on FDI inflows [Okada (2013)]. • Chevron withdrew from the project, explicitly citing “significant changes to the fiscal, legislative and regulatory climate” introduced after its bid. In other words, new taxes and unclear regulations on shale extraction were imposed mid-process, eroding the deal’s commercial basis. Lithuanian officials admitted there was a “lack of regulatory clarity,” as Parliament was still debating law amendments even after the tender [Reuters (2013)]. • Protection of intellectual property rights, political stability, a reduced incidence of corruption, and a greater degree of regulatory certainty... attract greater levels of foreign direct investment [Ren (2024)] • Macro reforms (like tax incentives or liberalization) alone are not enough. Without institutional reform (rule of law, governance, transparency), FDI inflows stay limited and volatile. Perceptions of institutional quality are crucial for FDI [Buchanan et al. (2012)]. • Nation brand index NBI covers governance, exports, people, tourism, investment, immigration, culture/heritage [Lahrech et al. (2020)]. • Investors in a 2024 study noted that Qatar’s stable and responsive government, with strong rule of law, gave them “a high degree of investor confidence” and assurance that obligations would be honored. Similarly, research finds that countries projecting good governance and transparency improve their image as investment destinations [Mohib & Carroll (2024)]. • Country’s political stability and government efficiency affects FDI [Činčikaitė, Meidute-Kavaliauskiene (2023)].
Sustainability	<ul style="list-style-type: none"> • AI and green transition are seen as Europe’s “future hooks” for FDI attractiveness (e.g., Microsoft AI R&D in Ireland, AstraZeneca in Spain). Europe is a sustainability leader with some of the most ambitious targets globally for reducing greenhouse gas (GHG) emissions, protecting biodiversity and implementing sustainable agriculture. It has the highest offshore wind-generation capacity globally and generates more than 40% of its electricity from renewable sources [EY Attractiveness survey 2025]. • Latvian government’s pro-active measures – like the Green Channel initiative launched in 2021 to streamline large projects – also played a role, facilitating investments worth over €100 million in their first year [LIAA (2021)]. • Denmark has aggressively advanced green transition (electric grids, hydrogen) – efforts that draw foreign capital [Lloyds bank report (2025)]. • Investors increasingly scrutinize how a foreign project aligns with sustainability goals or ethical standards. For instance, companies may evaluate the carbon footprint of locating production in a given country or consider the host country’s environmental regulations and labor practices as part of due diligence. Good ESG performance can enhance investor

	<p>confidence, as evidenced in one study on FDI into China that found strong ESG practices by firms helped attract foreign investment by boosting reputational trust [Guan (2025)].</p> <ul style="list-style-type: none"> • Sustainable development - At least one in two new entrepreneurs identified an SDG as a priority in 25 of 33 economies. Sustainable Development Goals (SDGs): No poverty, zero hunger, good health and well-being, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry innovation and infrastructure, reduced inequalities, sustainable cities and communities, responsible consumption and production, climate action, life below water, life on land, peace justice and strong institutions, partnership for the goals [GEM 2023/2024 Report].
Corruption	<ul style="list-style-type: none"> • Throughout the post-Soviet period, Estonia developed a reputation as one of the most business-friendly and least corrupt environments in Central/Eastern Europe [Grigonytė (2010)]. • Investigations revealed that billions in illicit funds flowed through Estonian bank branches (e.g. the Danske Bank scandal), leading to regulatory crackdowns. International analysts noted that such events created negative perceptions among investors, hurting Estonia’s previously stellar reputation [Selga (2025)]. • Analysts noted that the collapse of Belene “reflects widespread corruption” in Bulgaria, with concerns that the project had become a money pit for rent-seeking. The Belene case underscores how a country’s poor governance image can both deter honest investors (no EU firms wanted in) and force authorities to axe a venture due to international reputational pressures [Reuters (2016)]. • Corruption has a negative impact on FDI location choices, especially with regard to multinational enterprises, because it raises business costs and perceptions of uncertainty [Milesi-Ferretti & Tille (2014)]. • Shadow economy reduces FDI attractiveness [Bayar et al. (2020)]. • Investors want assurance against expropriation, corruption, or chaotic rule changes [Okada (2013)]. • Perceptions still matter: Even though no consistent statistical link, investor perception is influenced by CPI and CRA scores—these are “attractiveness signals” to the international community [Iloie (2015)]. • The composite institutional impact indicator, which is constructed by combining different dimensions of institutional variables, such as bureaucracy, corruption, political instability, and the effectiveness of the legal system, indicates that certain combinations can have either a positive or a negative effect on FDI inflows [Okada (2013)]. • Protection of intellectual property rights, political stability, a reduced incidence of corruption, and a greater degree of regulatory certainty... attract greater levels of foreign direct investment [Ren (2024)]. • Macro reforms (like tax incentives or liberalization) alone are not enough. Without institutional reform (rule of law, governance, transparency), FDI inflows stay limited and volatile. Perceptions of institutional quality are crucial for FDI [Buchanan et al. (2012)]. • Transparency. Estonia’s experience shows that a highly digitally literate population and strong governance can blunt the impact of disinformation: despite being bombarded by fake news (often from hostile neighbors), Estonia maintained investor confidence through its e-government transparency and resilient civil society [Selakovic (2022)]. • Country’s bribery and corruption levels affects FDI [Činčikaitė, Meidute-Kavaliauskiene (2023)].
Talent Pool	<ul style="list-style-type: none"> • A skilled, English-proficient workforce made Denmark attractive [Lloyds bank report (2025)]. • All three Baltic states share common narrative elements – they stress their high education levels, tech talent [Lloyds bank report (2025)]. • In Vilnius Thermo Fisher’s decision to reinvest in Lithuania – where it had established a large presence by acquiring a local biotech firm – was driven by the strong local talent pool and formed a cornerstone of Lithuania’s strategy to grow its life sciences sector [Irwin-Hunt (2023)]. • Germany’s highly skilled workforce, R&D infrastructure, and strong engineering tradition remain core strengths [Santandertade.com (2025)]. • Poland’s stable, fast-growing economy (Central Europe’s largest) attracts nearshoring and diversification of supply chains. Its strengths include a large domestic market, educated labor force, and proximity to Western Europe [Trade.gov.pl (2024)].

	<ul style="list-style-type: none"> • A magnet for FDI (again about Latvia): Location, business-friendly regulations, and a skilled workforce make Latvia attractive for FDI [O'Dwyer (2025)]. • Human development (education, health, living standards) increases FDI attractiveness [Bayar et al. (2020)]. • Probably the most acute challenge for Lithuania when competing for FDI is its aging society and shortage of specialists [Karčiauskas, China CEE Institute (2023)]. • The location may be a source of encouragement for the new enterprise by providing quality education (on starting a business, for example) [GEM 2023/2024 Report]. • Nation brand index NBI covers governance, exports, people, tourism, investment, immigration, culture/heritage [Lahrech et al. (2020)]. • Nation's human capital is "pivotal in shaping economic competitiveness and countries that showcase a talented workforce enhance their investment appeal [Dineri et al. (2024)]. • Recent surveys of investors in the Baltic states, for example, praise the high quality of IT education and favorable cost-to-quality ratio of labor in Latvia and Lithuania [FICIL Sentiment Index 2024]. • Empirical studies likewise indicate that the availability of skilled labor and welcoming immigration policies for talent improve a country's image as an FDI destination [Mohib & Carroll (2024)]. • "Productivity", "Quality of Education and Science", "Education and Requalification", "Availability of labour at management level", "Availability of hands" as some of Latvia's economic drivers [Brent (2024)]. • Country's Unemployment levels, Education levels affects FDI [Činčikaitė, Meidute-Kavaliauskiene (2023)]. • Lithuania's well-educated and multi-lingual workforce are among the main reasons why an increasing amount of international companies choose to invest in Lithuania. For the continued success at attracting FDI, Lithuania needs to address the problem of shrinking labour force and a shortage of certain specialists. biotech companies closely co-operate with Lithuania's universities which design and adjust their education programmes based on the needs of the business. Furthermore, the international companies benefit from highly educated and multilingual workforce in Lithuania [Karčiauskas, China CEE Institute (2023)]. • Probably the most acute challenge for Lithuania when competing for FDI is its aging society and shortage of specialists. Some investors are spooked to find out that some regions in Lithuania face fastest depopulation in the EU because of intense emigration of young and skilled workers. 8 Another longer term issue is natural shrinking of population when there are, on average, more deaths than births in the country [Karčiauskas, China CEE Institute (2023)]. • D1. Entrepreneurial Education at School: schools introduce entrepreneurial ideas. D2. Entrepreneurial Education post school: colleges offer courses in how to start a business [GEM 2023/2024 Report].
Domestic Market	<ul style="list-style-type: none"> • Poland's stable, fast-growing economy (Central Europe's largest) attracts nearshoring and diversification of supply chains. Its strengths include a large domestic market, educated labor force, and proximity to Western Europe [Trade.gov.pl (2024)]. • Germany's large market, advanced industrial base, and central location have attracted multinationals [Santandertade.com (2025)]. • Market size and other market characteristics are regarded as crucial elements that can shape the market advantages of the host country [GEM 2023/2024 Report]. • Nation brand index NBI covers governance, exports, people, tourism, investment, immigration, culture/heritage [Lahrech et al. (2020)]. • Skepticism at home. In a 2012 national referendum, 62.7% of Lithuanians voted against building the new nuclear plant, reflecting public distrust and image concerns [Reuters (2013)]. • Nation-branding research finds that economic performance is tightly linked to investment appeal. A strong economy with growth prospects "signifies opportunities for trade, investment, and collaboration". Panel-data analysis of 2010–2020 shows a statistically significant positive relationship between a country's macroeconomic indicators (like export volume, FDI inflows) and its nation brand value, meaning investors gravitate to countries perceived as economically stable and prosperous [Dineri et al. (2024)]. • "Attitude towards foreign investors" as some of Latvia's economic drivers [Brent (2024)].

	<ul style="list-style-type: none"> Country's Population, Market size, GDP per capita, Energy consumption, FDI inflows affects FDI [Činčikaitė, Meidute-Kavaliauskiene (2023)]. A1. Entrepreneurial Finance: there are sufficient funds for new startups. G1. Easy of Entry - Market Dynamics: markets are free, open and growing [GEM 2023/2024 Report].
Infrastructure, Location, Connectivity	<ul style="list-style-type: none"> The location may be a source of encouragement for the new enterprise by having excellent communication links (not just internet and mobile phone networks, but good roads, public transport, etc.), by providing access to resources, including finance, premises, affordable utilities and quality local services [GEM 2023/2024 Report]. Infrastructure is a tangible aspect of nation branding under the “exports” or “investment” dimensions. Research on investor perceptions finds that global connectivity and hub positioning are highly valued. For example, Qatar's nation brand was boosted by its world-class transport links and digital infrastructure, which foreign companies saw as enabling them to service adjacent markets [Mohib & Carroll (2024)]. Latvia has promoted its logistical advantages (e.g. a busy air hub and modern office infrastructure) and proximity to key markets, which investors cited as decisive factors for choosing it as a base [FICIL Sentiment Index 2024]. Poland's stable, fast-growing economy (Central Europe's largest) attracts nearshoring and diversification of supply chains. Its strengths include a large domestic market, educated labor force, and proximity to Western Europe [Trade.gov.pl (2024)]. A magnet for FDI (again about Latvia): Location, business-friendly regulations, and a skilled workforce make Latvia attractive for FDI [O'Dwyer (2025)]. Germany's large market, advanced industrial base, and central location have attracted multinationals [Santandertrade.com (2025)]. “Infrastructure”, “Energy resources” as some of Latvia's economic drivers [Brent (2024)]. Country's Transport Infrastructure, Communication infrastructure affects FDI [Činčikaitė, Meidute-Kavaliauskiene (2023)]. IT-based companies value Lithuania's high speed of internet [Karčiauskas, China CEE Institute (2023)]. F. Commercial and Professional Infrastructure: quality services are available and affordable. H. Physical Infrastructure: good quality, available and affordable [GEM 2023/2024 Report].
Quality of Life	<ul style="list-style-type: none"> Human development (education, health, living standards) increases FDI attractiveness [Bayar et al. (2020)]. Builds on Nye's definition: soft power = culture, values, credibility, trust, fairness, good intentions. “Results concluded that soft power factors variables have a significant positive relationship with foreign direct investment.” [Aideki (2023)]. Nation brand index NBI covers governance, exports, people, tourism, investment, immigration, culture/heritage [Lahrech et al. (2020)]. Governments with weak hard power (military/economic) can still boost investor confidence by cultivating cultural and reputational assets. As soft power increases, investment risk decreases with a correlation of -3%” [Montemayor (2024)]. The “Investment & Immigration” dimension of nation brand indexes explicitly considers a country's living conditions for people and companies. A 2024 case study noted that developing modern infrastructure and comfortable living conditions (expat-friendly policies, family amenities) contributed to Qatar being seen as a “modern, comfortable, and family-friendly” business destination [Mohib & Carroll (2024)]. European investors note that the Baltic states offer good quality of life – beautiful nature, compact cities, and affordable living – which adds to their attractiveness as investment location. Ensuring public safety and a welcoming culture further strengthens this narrative of a reliable, livable destination [FICIL Sentiment Index 2024]. “Health system”, “Social security” and “Standard of living in Latvia” as some of Latvia's economic drivers [Brent (2024)]. I. Social and Cultural Norms: encourage and celebrate entrepreneurship [GEM 2023/2024 Report].

Appendix 2: FDI Narratives and their LLM Generated Arguments

Narrative	Arguments
Price & Tariffs	<p> Preferential trade access is opening doors to new markets. Energy subsidies are helping businesses stay competitive through winter. Long-term power contracts are protecting firms from market shocks. Sudden exchange-rate shifts are amplifying the cost of foreign goods. Rising energy costs are forcing companies to rethink their operations. Unexpected tariff hikes have shaken investor confidence. Sudden changes in import fees cause anxiety among traders. A favorable tax regime is helping offset higher energy costs. R&D incentives are helping balance higher labor costs. Transparent pricing policies are restoring confidence among investors. Stable payroll taxes make future costs easier to predict. Fuel shortages last year disrupted production across several industries. Rising social contributions are adding pressure to company budgets. Energy reforms are cutting grid fees and stabilizing supply. Cheaper labor remains one of the region's strongest attractions. Persistent inflation is testing the patience of long-term investors. Stable inflation rates make long-term budgeting more reliable. Consistent excise rules are improving price stability for exporters. Energy prices keep falling, giving local firms new breathing room. Lower trade barriers are improving access to nearby consumer markets. Currency swings are amplifying the effects of import tariffs. Rising living costs threaten to erode the country's cost advantage. Improved energy efficiency is helping firms reduce operational expenses. Volatile gas prices have pushed some industries to relocate. High tariffs continue to weigh on exporters and small producers. Higher customs fees are complicating supply contracts for manufacturers. Growing wage demands are starting to erode the cost advantage. Carbon taxes are hitting older industries harder than expected. Tax breaks are helping offset higher input costs. Lower production costs are drawing attention from regional investors. Sharp fuel price spikes have forced firms to raise retail prices. Easing inflation has brought renewed optimism to the business sector. Import duties have made raw materials noticeably more expensive. Export restrictions continue to disrupt supply chains across Europe. Simplified customs procedures are reducing delivery delays. New tariffs on imports are shaking confidence among small traders. Renewable subsidies are making clean energy investments more affordable. Uncertain tariff policies discourage expansion of export-driven businesses. Affordable labor continues to attract foreign manufacturers to the region. Lower electricity bills are helping manufacturers regain competitiveness. Falling transport costs are giving exporters a welcome advantage. Compliance fees are quietly eating into business margins. Sanctions are reshaping trade routes and deterring some foreign projects. Diversified suppliers are helping firms reduce tariff risks. Border congestion has raised calls for more regional trade hubs. </p>
Supportive Policies / Ease of Doing Business	<p> Investors praise the country's clear and predictable tax system. Digital signatures and e-services are streamlining company registration. Business-friendly reforms have improved the nation's competitiveness rankings. Corporate tax cuts have spurred a new wave of foreign projects. Confusing labor laws are adding uncertainty to hiring decisions. Red tape continues to slow approvals for infrastructure projects. Businesses complain that inconsistent tax enforcement hurts fair competition. Sudden tax amendments have caught some investors off guard. Delays in permit approvals are holding back several major investments. Policy reversals after elections are driving caution among investors. </p>

	<p>Corruption-free procurement rules are improving the climate for investors. Simplified licensing procedures have cut weeks off the setup process. Public-private partnerships are being used to attract strategic industries. Surprise tax audits are damaging trust between firms and authorities. Unclear subsidy rules are frustrating potential applicants. Simpler company registration rules are encouraging a wave of new startups. Inconsistent enforcement of regulations remains a concern for exporters. Frequent legal amendments create confusion among smaller enterprises. Startup visas and grants are strengthening the innovation ecosystem. Policy gaps between ministries are slowing some investment programs. Slow judicial processes are still hurting investor protection. Government one-stop-shops are making it easier to start new businesses. Prolonged permit approvals continue to frustrate construction projects. Frequent rule changes are leaving businesses uncertain about future costs. Consistent regulatory standards are bringing more predictability to the market. Lengthy licensing procedures remain an obstacle for foreign businesses. Unpredictable legal interpretations are creating unnecessary risks for companies. Automated systems are reducing corruption risks in business registration. Lengthy appeals procedures make dispute resolution costly and slow. Complex regulations still discourage smaller companies from expanding. Policy instability continues to undermine investor confidence. Tax incentives are drawing tech firms and startups into the market. Digital platforms have made filing documents faster and more transparent. Digital government tools are speeding up paperwork for new investors. Outdated bureaucracy still makes cross-border business unnecessarily complex. Open consultations with investors are helping shape smarter policies. Transparent tax policies have become a key attraction for investors. A predictable policy environment has become a key selling point. Government reforms have streamlined communication between agencies and investors. New incentives are designed to attract high-value industries. Heavy bureaucracy remains a major obstacle for foreign firms. Stable governance is encouraging firms to commit to long-term plans. Stable regulations give investors confidence in long-term commitments. Transparent legal frameworks are boosting trust among international partners. Public consultations are making regulatory decisions more inclusive.</p>
Innovation in Strategic Industries	<p>Sustainable energy technologies are emerging as a strategic export niche. Weak intellectual property enforcement worries foreign investors. Regulatory sandboxes are encouraging pilot projects in fintech and healthtech. Industrial clusters are helping startups scale faster and attract investment. Public labs are opening doors to private partnerships and joint ventures. Limited funding options are slowing the development of new technologies. Targeted innovation funds are helping bridge research and commercialization. Green startups are gaining momentum in renewable energy and waste tech. Low absorption of EU innovation funds remains a missed opportunity. Risk-averse banks still hesitate to lend to unproven technologies. Limited access to testing facilities constrains hardware development. AI-driven companies are helping diversify the region's industrial base. A growing biotech sector is drawing interest from foreign investors. Fragmented innovation policies are causing inefficiencies across sectors. A strong scientific base offers solid ground for tech-driven industries. Complex patent laws discourage inventors from protecting their innovations. A lack of coordination between ministries is slowing tech adoption. Slow patent approval processes discourage early-stage inventors. Incubators are helping startups turn prototypes into market-ready products. Tech startups are becoming a driving force behind economic growth. Green technology startups are finding strong demand across Europe. Brain drain threatens the sustainability of the innovation ecosystem. High technology adoption costs keep many firms cautious about innovation. International accelerators are integrating local innovators into global markets.</p>

	<p>Heavy administrative requirements are discouraging experimental projects. R&D partnerships with universities are fueling industrial breakthroughs. Cross-border accelerators are giving startups global exposure. Collaborations with global corporations are accelerating technology transfer. Fragmented R&D strategies risk duplication of effort and wasted funds. Cross-border innovation programs are creating new commercial opportunities. Government grants are helping small firms move ideas from lab to market. Innovation hubs are linking research institutions with private investors. Public funding for deeptech projects has risen sharply in recent years. Talent shortages in STEM fields are threatening growth in advanced sectors. Weak coordination between research institutions reduces innovation efficiency. Digital transformation incentives are modernizing traditional industries. Defense and dual-use industries are attracting fresh international attention. Low R&D spending compared to GDP raises competitiveness concerns. A shortage of venture capital remains a challenge for innovators. Lack of skilled engineers is delaying high-tech production projects. Innovation funding remains unevenly distributed across key sectors. AI initiatives are becoming central to national development strategies. Lack of early-stage funding continues to limit research commercialization. High hardware costs still slow adoption of automation in factories. Outdated regulations are holding back emerging technology sectors.</p>
Geopolitical Stability	<p>A clear foreign policy direction fosters confidence in national priorities. Stable regional diplomacy is encouraging a cautious return of investors. Escalating global conflicts are prompting companies to diversify assets. Defense spending growth signals both resilience and geopolitical commitment. Neutral stances on global issues attract investors seeking predictable climates. Military build-ups nearby are raising questions about future risks. Unclear sanctions rules are leaving exporters uncertain about future trade. Border tensions remain a sensitive topic in investor discussions. Shifting alliances raise uncertainty for firms dependent on regional trade. Commitment to shared security frameworks builds confidence in the rule of law. Unclear geopolitical signals are discouraging some potential investors. Rumors of policy misalignment with allies briefly spooked local markets. Strong international alliances are reinforcing perceptions of safety and trust. Close cooperation with partners is helping maintain diplomatic credibility. Ongoing regional disputes continue to weigh on investor confidence. Reliable foreign policy is increasingly viewed as an economic asset. Heightened border tensions have renewed discussions about supply chain risks. Lack of coordination with allies fuels speculation about long-term security. Rising geopolitical tensions have caused delays in several cross-border projects. Strong engagement in international institutions sends a message of reliability. Prolonged instability elsewhere is boosting the country's image as a safe haven. Strong diplomatic ties are supporting the perception of predictable governance. Visible support from strategic partners reassures financial markets. The conflict climate is prompting companies to review contingency plans. Rumors of diplomatic strain have briefly unsettled investor sentiment. Frequent geopolitical crises elsewhere make this region appear more stable. Participation in peacekeeping missions enhances international credibility. Balanced foreign relations are minimizing exposure to global trade shocks. Neutral diplomacy is enhancing perceptions of business continuity. Regional security concerns are shaping investor sentiment more than ever. Membership in international alliances reassures global partners about stability. Active crisis management has helped maintain stability during volatile periods. Global investors reward nations perceived as politically and militarily stable. Uncertainty over neighboring regimes creates nervousness among multinationals. Active participation in collective defense is seen as a stabilizing factor. Political unrest in the region is making investors more cautious. Heightened sanctions risks are driving firms to diversify supply chains. Stable relations with neighbors are reassuring long-term investors.</p>

	<p>The country's security commitment is seen as a stabilizing economic force. Foreign embassies praise consistent communication on security matters. Ongoing military drills near borders unsettle local business communities. Foreign companies appreciate predictable alignment with major international norms.</p> <p>Shifting alliances in neighboring countries raise long-term risk concerns. Diplomatic transparency helps investors assess future cooperation potential. Persistent global conflicts are pushing investors to focus on safer jurisdictions.</p>
Predictable Politics	<p>Clear election outcomes reduce the risk of policy reversals. Rapid policy shifts have caught some industries off guard. Frequent electoral campaigns are keeping the policy agenda fragmented. Smooth transitions of power demonstrate institutional maturity. Sudden leadership changes have rattled financial markets. Short-lived cabinets have made policy follow-through difficult. Frequent cabinet reshuffles make long-term planning difficult for investors. Policy communication gaps sometimes fuel unnecessary speculation. Consensus-driven governance is reinforcing a predictable policy environment. Frequent government reshuffles are creating uncertainty in long-term planning. Rising populism is testing traditional political consensus models. Election uncertainty often delays investment decisions until outcomes are clear. Clear political direction is helping businesses forecast future regulations. Strong parliamentary procedures keep policymaking transparent and orderly. An independent judiciary supports predictability in government decisions. Balanced governance ensures steady policy implementation across sectors. Decentralized governance provides continuity despite political change. Protests over economic inequality challenge the image of political calm. Growing political fragmentation is slowing legislative progress. Unexpected resignations have reignited concerns about leadership stability. Political polarization continues to test institutional stability. Institutional continuity has kept the investment climate relatively calm. Strong parliamentary cooperation is helping advance economic modernization. Regular consultations with businesses promote confidence in decision-making. Transparent policymaking is improving the nation's credibility abroad. Constructive opposition is strengthening the country's democratic resilience. Effective communication from policymakers is supporting a sense of direction. Cross-party agreements are signaling a commitment to reform stability. Growing populism is challenging the perception of long-term policy steadiness. Stable coalitions are preventing major disruptions to reform agendas. Independent institutions are providing a buffer against political volatility. Stable leadership has brought a sense of continuity to investors. Scandals and resignations are damaging the perception of political reliability. Calm political transitions reinforce the perception of institutional maturity. Polarized politics are making it harder to pass structural reforms. Policy surprises have raised doubts about the government's consistency. A stable coalition has restored confidence after months of political tension. Cross-party stability sends a message of democratic resilience. Commitment to coalition discipline enhances predictability for investors. Public protests have occasionally disrupted investor confidence. Populist rhetoric is raising fears of unpredictable decision-making. Predictable governance remains one of the country's strongest assets. Frequent amendments to key laws frustrate long-term business planning. Leadership disputes within ruling parties create uncertainty in the markets. Election cycles continue to introduce periods of regulatory hesitation.</p>
Sustainability	<p>Lack of recycling capacity highlights gaps in sustainable infrastructure. Corporate ESG commitments are driving new demand for green technologies. Eco-friendly infrastructure projects are reshaping urban planning. Circular economy initiatives are creating new business opportunities. Sustainability standards are reshaping how foreign firms assess opportunities. Weak climate adaptation plans risk future economic losses. Strict ESG disclosure rules are improving transparency in local markets.</p>

	<p>Limited expertise in ESG auditing slows adoption among small firms. The push for carbon neutrality is strengthening the country's long-term outlook. Critics argue that green subsidies favor large corporations over SMEs. Green bonds are emerging as a preferred tool for financing innovation. Frequent delays in green funding distribution frustrate project developers. Green startups are benefiting from new international partnerships. Weak enforcement of climate targets risks undermining global credibility. Sustainable transport initiatives are improving air quality in cities. Eco-friendly branding is helping improve the nation's international reputation. Rising energy costs threaten public support for green reforms. Inconsistent environmental rules are confusing potential investors. High carbon prices are driving innovation in cleaner production methods. Growing investor demand for green portfolios is transforming capital flows. Outdated infrastructure is slowing the shift to cleaner production methods. Public awareness campaigns are encouraging more sustainable consumption. Corporate sustainability rankings are becoming a source of national pride. Public opposition to certain green projects shows growing transition fatigue. Renewable energy projects are attracting a growing number of investors. Delayed environmental targets are drawing warnings from international partners. Renewable subsidies have sparked rapid growth in solar and wind energy. Ambitious climate policies are helping position the country as a regional leader. Partnerships in clean tech are reinforcing cross-border sustainability goals. Public awareness of ESG principles is steadily increasing. Lax enforcement of recycling rules undermines environmental credibility. Slow adaptation in heavy industry remains a key sustainability challenge. Increased renewable capacity is reducing dependence on fossil fuels. Sustainable agriculture is gaining traction among export-oriented producers. Weak coordination between ministries slows climate adaptation measures. Green transition goals are becoming central to national investment plans. Slow progress on emissions cuts is drawing criticism from environmental groups. Unrealistic emission targets risk creating public fatigue toward reforms. Stronger climate reporting standards are boosting corporate accountability. Slow permitting processes are holding back renewable installations. Old pollution legacies continue to haunt industrial redevelopment zones. Limited access to green finance is delaying major environmental projects. Fragmented green strategies risk diluting overall environmental progress. Short-term energy concerns are overshadowing climate commitments. Investors see clear sustainability goals as a sign of long-term stability.</p>
Corruption	<p>Some officials face backlash for failing to declare assets transparently. Slow court cases discourage whistleblowers from coming forward. Political favoritism remains a barrier to fair competition. Rumors of favoritism in large tenders spark public debate. Media independence is essential for uncovering corruption networks. Corporate governance reforms are helping professionalize state enterprises. Conflict-of-interest rules are still too weak to ensure accountability. International benchmarks show gradual improvement in integrity rankings. Accusations of cronyism threaten to overshadow reform progress. Ethics training programs are becoming mandatory in several institutions. High-profile arrests have sent a strong signal against systemic corruption. Political immunity continues to frustrate anti-corruption efforts. Selective justice continues to undermine confidence in rule of law. A transparent judiciary is seen as key to fighting corruption. Transparency portals have improved access to information on public spending. Foreign partners welcome visible progress in fighting systemic corruption. Independent watchdogs are gaining credibility in monitoring public spending. Allegations of favoritism in public tenders spark heated media debates. Politically exposed persons face increased scrutiny from financial regulators. New transparency laws are narrowing loopholes in party financing. Persistent corruption scandals continue to erode public trust in institutions.</p>

	<p>Audits of state-owned companies are exposing long-ignored irregularities. Civil society groups are demanding tougher sanctions for corrupt behavior. Weak oversight in public procurement still raises red flags for investors. Opaque ownership structures continue to complicate due diligence checks. Complex bureaucracy still leaves room for discretionary decisions. Anti-bribery laws are being enforced more strictly than before. Lobbying regulations remain vague and inconsistently applied. Slow court proceedings still weaken deterrence against financial crimes. Delays in corruption trials undermine faith in legal reform. Business leaders warn that informal payments still distort fair markets. Open-data initiatives are helping expose misuse of public funds. Digitized government services are reducing opportunities for petty corruption. Public campaigns for clean governance are gaining international attention. Media investigations keep pressure on officials to act against corruption. Stronger financial disclosure rules are limiting space for illicit deals. Foreign investors praise improvements in transparency and rule enforcement. Civic pressure is pushing authorities toward greater accountability. Whistleblower protections are being expanded to cover private-sector workers. Open contracting portals are becoming a standard tool for oversight. New e-procurement tools are reducing the space for manipulation. Public skepticism remains high despite official anti-corruption campaigns. Efforts to strengthen transparency are improving the country's global image. Corporate ethics programs are spreading among leading domestic firms. Civil society activism is making graft a higher political priority.</p>
Talent Pool	<p>University-industry partnerships are creating smoother career pathways. Continuous learning programs are becoming essential for workforce renewal. Low productivity growth points to gaps in workforce training. Public funding for re-skilling is improving labor adaptability. Foreign talent visas are helping fill key technical positions. High competition for IT talent drives up salary expectations. Remote work is helping attract specialists from across Europe. Firms are investing in upskilling to stay competitive in automation. Apprenticeship programs are linking education more closely with business needs. Low birth rates are prompting strategies to attract foreign professionals. Youth unemployment remains lower than the regional average. A lack of senior management experience limits startup scalability. Public investment in research careers is slowing academic emigration. High education standards are enhancing the nation's reputation for quality work. Coding bootcamps are producing a new wave of digital specialists. Migrant integration programs are expanding the available workforce. Talent retention policies are struggling to keep pace with global competition. Shortages of IT specialists are slowing digital transformation projects. Recruitment competition is intensifying among major urban centers. Labor shortages in healthcare and engineering remain critical. Rigid labor rules discourage flexible hiring in fast-growing industries. Better integration of migrants could help balance demographic decline. Government scholarships are encouraging students to pursue STEM degrees. Aging demographics are putting pressure on labor supply. Emigration of skilled workers is creating challenges for employers. Universities are expanding partnerships with foreign research institutions. Remote work is helping companies recruit talent beyond national borders. Returning emigrants are enriching the labor market with international experience. Declining population trends could constrain long-term labor availability. Low wages continue to drive young graduates abroad. Language skills are giving graduates an edge in global job markets. Technical education programs are being redesigned to meet industry demand. Private companies are investing more in employee development initiatives. Teacher shortages threaten the quality of technical education programs.</p>

	<p>A highly educated workforce remains one of the country's biggest assets. STEM scholarships are inspiring more women to pursue engineering careers. Vocational schools are adapting curricula to match industrial demand. English proficiency among young professionals is improving rapidly. Brain drain toward wealthier economies remains a pressing concern. Rising salaries in tech sectors are attracting regional job seekers. Weak career counseling leaves many students unprepared for job market needs. Gender gaps in technical fields are slowly narrowing. A strong culture of innovation is attracting international professionals. Employers report difficulty finding mid-level technical managers. Ongoing brain drain threatens the availability of skilled professionals.</p>
Domestic Market	<p>Falling consumer confidence signals caution about upcoming price increases. Growing health and sustainability awareness is changing consumer habits. Sluggish credit growth is holding back consumer-led recovery. Rising household incomes are creating new opportunities for service industries. Urban middle-class growth is fueling demand for quality products. Shrinking rural populations limit opportunities for nationwide retail expansion. A small internal market limits the scale of local production. Small local brands are gaining recognition among younger consumers. E-commerce penetration is accelerating faster than traditional retail expected. Slower wage growth could dampen domestic consumption in the near term. Declining population growth is constraining long-term market expansion. Narrow market size makes exports crucial for most local firms. Uneven regional development leaves rural markets underexploited. Steady consumer demand is keeping the domestic economy resilient. Low purchasing power continues to discourage large retail investments. Government stimulus has temporarily boosted local purchasing power. Uncertain global conditions may slow domestic demand recovery. Falling confidence among consumers signals caution about future growth. A diversified service sector is cushioning the impact of global slowdowns. Tourism-driven spending helps balance fluctuations in domestic consumption. Expanding online marketplaces are helping small retailers reach new buyers. High competition in retail is keeping profit margins tight. Middle-income households are fueling demand for modern housing. Price-sensitive consumers keep pressure on firms to stay competitive. A growing appetite for digital services is transforming business models. Inflation fatigue is dampening enthusiasm for discretionary purchases. Rising energy prices are squeezing consumer budgets. Local companies are adapting quickly to shifting demand patterns. Expanding financial services are improving access to credit for households. Retail spending has recovered strongly after years of stagnation. Demographic decline continues to cap potential domestic consumption. Overreliance on exports makes the economy vulnerable to global shocks. Tourism rebounds are stimulating short-term domestic spending. Price-sensitive buyers favor affordable goods over premium brands. A dynamic startup scene is tapping into new consumer niches. Consumers are showing growing interest in locally produced goods. E-commerce growth is reshaping how consumers spend and interact with brands. Limited market depth discourages mass-market foreign retailers. Entrepreneurs see niche opportunities in health and wellness markets. Local suppliers are gaining confidence from increased domestic demand. High import dependency influences domestic pricing structures. Rising disposable income is driving growth in local hospitality sectors. Low brand loyalty makes it harder for companies to retain customers. Stable inflation supports predictable pricing strategies for local businesses. High interest rates are weakening household purchasing capacity.</p>
Infrastructure, Location, Connectivity	<p>Public-private partnerships are financing large transport and energy projects. Aging transport infrastructure remains a drag on economic performance. Railway upgrades are helping link industrial zones to major ports. Delays in EU-funded infrastructure programs raise accountability concerns.</p>

	<p>New highways are linking industrial areas with logistics hubs. Long customs queues are discouraging time-sensitive industries. Bottlenecks in freight corridors are undermining logistical efficiency. Poor rural connectivity still hampers balanced regional development. Reliable digital infrastructure is enabling growth in remote services. Energy interconnectors are strengthening cross-border electricity trade. Freight operators welcome new digital tracking systems at border points. Regional freight corridors are positioning the country as a key transit link. Access to major markets within a day's drive is a strong selling point. Improved regional airports are opening new trade and tourism routes. Inconsistent infrastructure planning risks wasting valuable EU funds. High logistics efficiency is becoming a competitive advantage for exporters. Digital connectivity has become as vital as physical infrastructure. Weather resilience is becoming a key factor in infrastructure planning. Major rail projects are cutting travel times between key cities. Smart-city projects are upgrading public transport and traffic systems. Integration with trans-European networks is expanding trade opportunities. Congested seaports remain a challenge for supply chain managers. Unfinished road links are holding back cross-regional trade integration. Upgraded border crossings are cutting wait times for cargo operators. Expanding renewable grids are helping power new manufacturing clusters. Inadequate energy interconnections have raised concerns about reliability. Modern highways are improving regional trade and logistics efficiency. Bureaucratic delays have slowed the rollout of key infrastructure projects. Improved port capacity is supporting higher export volumes. High logistics costs are reducing competitiveness for small exporters. Chronic underinvestment in maintenance reduces infrastructure reliability. Seasonal road conditions continue to challenge freight reliability. Reliable broadband access is drawing remote companies into rural regions. Underfunded public transport systems remain a daily frustration for commuters. Energy grid modernization is reducing downtime for industrial users. Strategic location makes the country a natural hub for regional trade. Strong air links are turning the capital into a business gateway. Insufficient airport capacity is limiting growth in business travel. Inconsistent regional planning slows construction of vital transport corridors. New industrial parks are clustering around improved transport corridors. New logistics parks are attracting multinational distribution centers. Investments in broadband are boosting the digital economy's competitiveness. Aging bridges highlight the need for continued infrastructure investment. Cross-border infrastructure projects are strengthening ties with neighboring economies. Underinvestment in local roads affects access to smaller markets.</p>
Quality of Life	<p>High utility costs are eroding disposable income for households. Work-life balance is increasingly seen as a national strength. Healthy lifestyle trends are improving public health outcomes. Strong community ties contribute to a sense of overall well-being. Rural depopulation is leaving some regions without essential services. Urban congestion and noise pollution reduce perceived livability. Strong digital infrastructure improves daily convenience for residents. Insufficient housing supply is putting pressure on rental markets. Urban regeneration projects are making cities more livable and inclusive. Unequal access to education remains a barrier for many families. High living standards are strengthening the country's appeal to foreign talent. Young professionals praise the balance between work and leisure opportunities. Rich cultural heritage adds to the country's international reputation. Aging populations are putting pressure on pension and health systems. Expanding public green spaces improves both tourism and well-being. Low crime rates are often cited as a major competitive advantage. Limited healthcare access in rural areas remains a persistent challenge. Emigration of skilled workers still affects social cohesion.</p>

	<p>Long commuting times diminish the benefits of urban growth. Accessible healthcare is strengthening the country’s social resilience. Long hospital waiting times continue to frustrate citizens and expats. Vibrant cultural life is helping retain young, creative professionals. Growing international communities add to the country’s cultural diversity. Shorter commuting times enhance perceptions of everyday comfort. A safe environment is often highlighted by foreign residents. Underfunded social services risk widening regional inequalities. Poor air quality in industrial zones hurts the country’s image. Traffic congestion continues to frustrate residents during rush hours. Regional disparities in income still affect perceptions of fairness. Rising housing costs are becoming a growing concern for residents. Modern public transport systems enhance daily comfort and efficiency. Access to green spaces is becoming a key quality-of-life factor. Clean cities and low crime rates attract professionals from abroad. People increasingly view quality of life as key to long-term prosperity. Modern schools and universities support a family-friendly environment. Strong social trust supports a stable and cooperative society. Income inequality continues to shape public debate about fairness. Overcrowded schools remain a pressing issue in fast-growing cities. Aging infrastructure in smaller towns lowers perceived living standards. Declining birth rates raise concerns about future social sustainability. Rising rent prices are pushing young families to suburban areas. Expats cite safety and friendliness as major reasons for relocation. Affordable childcare is helping more people return to the workforce. Growing environmental awareness is changing lifestyle expectations. Cultural festivals are boosting national identity and community spirit.</p>
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Appendix 3: Responses of 10 LLMs Tasked to Rank the Baltic States in Terms of Investment Recommendation

Model	Pick	LLM Reasoning
ChatGPT 5.1 Auto	<ul style="list-style-type: none"> ○ Lithuania ○ Estonia ○ Latvia 	<p>Lithuania currently looks the strongest bet: it’s showing the fastest and most resilient macro-outlook in the Baltics, with FDI stock growing 7.6% in 2024 and a further 5.9% to mid-2025, the region’s highest PE/VC deployment, and ratings analysts expecting it to outperform Estonia and Latvia fiscally and economically in the short to medium term. Its investment climate is also structurally attractive for foreign capital (stable laws, equal treatment, euro area, strong fintech and manufacturing base, and major ongoing energy and infrastructure upgrades), which keeps investors’ sentiment solid despite regional security risks. Sources used: lb.lt, finmin.lrv.lt, kpmg.com, scoperatings.com, baltictimes.com, state.gov, reuters.com, ft.com, apnews.com.</p> <p>I’d rank Estonia second: despite a recent recession and fiscal tightening, the OECD and others expect growth to resume from 2025 with low public debt, a sound financial sector, and strong upside from digitalisation and productivity gains. At the same time Estonia keeps attracting high FDI per capita under an</p>

		<p>open and predictable regime for foreign investors and ranks near the top in regional investment-promotion and innovation benchmarks, whereas Latvia's investment and R&D indicators remain among the weaker in the EU. Sources used: oecd.org, oecd.org, oecd.org, state.gov, ec.europa.eu, investinestonia.eu, tradingeconomics.com, ec.europa.eu.</p> <p>Latvia is ranked third because persistent investment weaknesses—tight credit conditions, slow EU-fund absorption and low business dynamism—drag on growth, while structural headwinds such as severe labour/skills shortages, demographic decline and weaker institutional efficiency increase risk and dampen investor confidence. Sources used: oecd.org, oecd.org, state.gov, oecd.org, oecd.org, ficil.lv, trade.gov, china-cee.eu, sgi.network.org, bti-projekt.org.</p>
ChatGPT 5 Instant	<ol style="list-style-type: none"> 1. Lithuania 2. Estonia 3. Latvia 	<p>If I had to pick one, I'd go with Lithuania, because it is forecast to lead the region in GDP growth (~2.8 % this year) and has strong structural incentives for foreign investment in tech, fintech and manufacturing. Sources used: ellex.legal, centrumbalticum.org, lsm.lv, windows.net, citadele.lt, imf.org, esm.europa.eu, finmin.lrv.lt, opbank.lt, luminor.lt.</p> <p>If I had to pick a second choice, I'd go with Estonia, because it has strong digital infrastructure and growing investment momentum, albeit with more modest near-term growth projections (around 0.6 % in 2025, rising to ~2 % in 2026-27). Sources used: ec.europa.eu, ec.europa.eu, luminor.lt, cblgroup.com, balticnews.com, viabaltica.fi, wiiw.ac.at, signetbank.com, eften.ee, lsm.lv, ficil.lv, citadele.lt, opbank.lt, ellex.legal, lrt.lt.</p> <p>Latvia ranks third because its GDP growth outlook is modest ($\approx 1\%$ in 2025) and structural headwinds—such as a tight labour market and a slow consumption rebound—undermine the investment case. Additionally, investor sentiment and relative FDI attractiveness lag behind its Baltic peers, pointing to less momentum in the near term. Sources used: ec.europa.eu, ey.com, ec.europa.eu, ec.europa.eu, commission.europa.eu, ey.com, ey.com, balticnews.com, madeinvilnius.com, bank.lv, europeanbusinessservices.com, facebook.com, facebook.com, portugalbusinessnews.com, fm.gov.lv, leta.lv, oecd.org, mfa.gov.lv.</p>
ChatGPT 4o	<ol style="list-style-type: none"> 1. Latvia 2. Lithuania 3. Estonia 	<p>If I had to pick one, I would go with Latvia, because in 2024 it recorded 33 new foreign direct investment (FDI) projects—a 50 % increase over the previous year—and was the only Baltic country to grow both projects and jobs created. Sources used: trend.az, ec.europa.eu, ey.com, ey.com, mfa.gov.lv, sseriga.edu, madeinvilnius.lt, ficil.lv, investlithuania.com, roedl.com,</p>

		<p>luminor.lt, ellex.legal, investinestonia.org, cblgroup.com, balticapitalpartners.com, mdpi.com.</p> <p>If your first choice is off the table, I would rank Lithuania as second — it leads the Baltic States in investor sentiment for growth potential over the next three years. Sources used: ey.com, ey.com, mdpi.com, vu.lt, vilniustech.lt, vilniustech.lt, wiiw.ac.at, lituanistika.lt, madeinvilnius.lt, investinestonia.com, oecd.org, sseriga.edu, vgtu.lt, researchgate.net, roedl.com.</p> <p>Here are two key concerns that led me to rank Estonia third among the Baltic countries:</p> <ul style="list-style-type: none"> • The country recently introduced a formal screening mechanism for foreign direct investments, which may increase regulatory burdens and slow down cross-border deal flow. • Despite strong institutions, Estonia faces trade- and external-shock risks (due to its small size and high openness), which could reduce upside relative to its peers. <p>Sources used: tja.ee, imf.org, ey.com, vu.lt, state.gov, vm.ee, wiic.ac.at, kpmg.com, coface.com, fin.ee.</p>
Gemini-2.5-flash	<ol style="list-style-type: none"> 1. Lithuania 2. Latvia 3. Estonia 	<p>I would choose Lithuania as it currently offers the strongest combination of economic resilience and future investor confidence among the Baltic states. It boasts the highest projected GDP growth for 2024 and 2025 and is consistently favored by executives for future investment and expansion, particularly due to its robust high-tech and leading fintech sectors. Sources used: ey.com, ey.com, luminor.lv, ficil.lv.</p> <p>I would rank Latvia second due to its projected economic recovery and recent success in attracting new foreign direct investment (FDI) projects. The economy is forecasted to return to robust growth in 2025, and investor sentiment has significantly improved, with a notable increase in new FDI projects recorded in the most recent year compared to its peers. Sources used: luminor.lv, ficil.lv, balticnews.com.</p> <p>The primary concern is Estonia's significantly weaker macroeconomic performance, as it has experienced a prolonged recession and is forecasted to have the lowest GDP growth among the Baltics for both 2024 and 2025, with higher inflation driven by recent VAT and other tax hikes. This is further compounded by deeply negative consumer sentiment and a comparatively poor performance in attracting net foreign direct investment (FDI) inflows, which collectively signal a less robust short-term economic momentum than</p>

		its neighbors. Sources used: naujienos.pricer.lt , worldbank.org , opbank.lt , news.err.ee , luminor.lv .
Gemini 3 Pro	<ol style="list-style-type: none"> 1. Lithuania 2. Latvia 3. Estonia 	<p>Based on current economic forecasts and structural resilience, Lithuania presents the strongest investment outlook in the region. Its economy is projected to lead the Baltics in GDP growth for 2024 and 2025 due to a diversified manufacturing base and rapid recovery in real wages, whereas Estonia is exiting a deeper, prolonged recession and Latvia trails slightly in productivity metrics. Additionally, Lithuania has successfully pivoted its energy sector and continues to attract high-value Foreign Direct Investment (FDI) in fintech and life sciences, offering a blend of stability and growth potential that currently outpaces its neighbors. Sources used: lrt.lt, swedbank-research.com, ec.europa.eu.</p> <p>If I were unable to invest in Lithuania, I would rank Latvia second. Latvia is currently projected to outperform Estonia in 2025 with stronger GDP growth (~1.8–2.2%) and lower inflation, while recent data indicates it has surpassed Estonia in attracting new foreign direct investment (FDI) projects. Unlike Estonia, which faces headwinds from fiscal tightening and significant exposure to the sluggish Finnish economy, Latvia offers investors lower entry valuations and a more resilient domestic consumption recovery. Sources used: balticnews.com.</p> <p>I placed Estonia third because it is emerging from a deeper, prolonged recession with 2025 GDP growth forecasts (~1.0–1.6%) that significantly lag behind its Baltic neighbors. Its recovery is currently hamstrung by aggressive fiscal tightening, including recent VAT and income tax hikes, alongside a heavier export dependence on the stagnating Finnish and Swedish economies. Sources used: baltictimes.com, err.ee, luminor.lv.</p>
Claude Sonnet 4.5	<ol style="list-style-type: none"> 1. Lithuania 2. Estonia 3. Latvia 	<p>Lithuania currently offers the strongest investment outlook among the Baltic states, with projected GDP growth of 2.7-3.0% in 2025 compared to Latvia's 1.0-1.8% and Estonia's 1.0-2.5%. Lithuania has demonstrated exceptional resilience to external shocks, maintaining the fastest growth in the region driven by robust private consumption, recovering investment, and a more diversified export geography. Sources used: luminor.lv, ec.europa.eu, baltictimes.com, lb.lt.</p> <p>Estonia would rank second, with projected GDP growth of 1.0-2.5% in 2025 driven by recovering foreign demand and falling interest rates, though it faces headwinds from fiscal consolidation including VAT increases to 24%. However, Latvia recently attracted more foreign investment projects (33 in</p>

		<p>2024) compared to Estonia (8 projects) and has the lowest unemployment rate among Baltic countries. Sources used: luminor.lv, eng.lsm.lv, balticnews.com.</p> <p>Latvia ranks third primarily due to its slower income convergence and weaker productivity growth compared to the other Baltic states, with GDP per capita falling behind Estonia and Lithuania since the global financial crisis. Additionally, Latvia faces the lowest GDP growth forecast (1.0-1.1%) for 2025 among the Baltics, coupled with significant medium-term fiscal pressures from defense spending, aging population costs, and delays in EU fund absorption. Sources used: imf.org, imf.org, ec.europa.eu, imf.org.</p>
<p>Claude Haiku 4.5</p>	<ol style="list-style-type: none"> 1. Lithuania 2. Latvia 3. Estonia 	<p>Based on current data, Lithuania offers the strongest investment outlook in the Baltic region, with GDP projected to grow at 3.0% in 2025, significantly outpacing Latvia (1.8%) and Estonia (1%), driven by robust private consumption and strong manufacturing exports to Central European markets. Lithuania's structural transition toward high value-added services including financial services and IT, combined with its closer economic ties to Poland and stronger business confidence, positions it better than its neighbors to weather external uncertainties. Sources used: luminor.lv, scoperatings.com.</p> <p>Based on the available data, Latvia ranks second as the investment choice among the Baltic countries. Latvia is projected to grow 1.8% in 2025, outpacing Estonia's forecasted 1% growth, while benefiting from stronger private consumption growth compared to Estonia and having the lowest unemployment rate in the region. Latvia also avoids the broad-based fiscal consolidation that Estonia is implementing through significant tax increases, allowing for more favorable business conditions despite lagging behind Lithuania's superior manufacturing-driven growth trajectory. Sources used: luminor.lv, opbanks.lv.</p> <p>Estonia ranks third due to significant headwinds that dampen near-term investment attractiveness. Estonia faces a prolonged downturn recovery with wages growing faster than productivity, permanent increases in input costs, and production with higher technological content constrained by lack of skilled labor and limited access to capital markets, while fast-rising defense spending needs and preexisting fiscal imbalances compound challenges. Estonia's growth is projected at just 0.6% for 2025 compared to Latvia's 1.8% and Lithuania's 3.0%, with inflation remaining elevated at 5.7% due to VAT increases, while the government faces growing fiscal pressures requiring further consolidation measures starting in 2026. Sources used: imf.org, ec.europa.eu.</p>

Grok 4.1	<ol style="list-style-type: none"> 1. Lithuania 2. Estonia 3. Latvia 	<p>Lithuania stands out as the Baltic country with the strongest investment outlook in 2025, driven by its leading projected GDP growth of 2.8%—surpassing Estonia's 1% and Latvia's 2.1%—which signals robust economic expansion amid regional recovery. Furthermore, Lithuania's strategic incentives, including a 0% corporate tax for up to 20 years on defence and green investments, combined with its status as a venture capital hub and top property ROI in Europe, position it as a prime destination for diversified FDI in tech, logistics, and real estate. Sources used: luminor.lt, state.gov, rubric.com, euronews.com.</p> <p>Estonia ranks as the second-best Baltic country for investment in 2025, bolstered by its unparalleled digital infrastructure, thriving fintech and e-governance sectors, and a flexible business environment that fosters innovation and attracts high-tech FDI despite slower GDP growth of around 1-2.5%. Although facing challenges like fiscal consolidation and exposure to weak Nordic export markets, Estonia's advanced digital economy and optimistic investor sentiment— with half of foreign investors planning to increase regional investments—position it ahead of Latvia for long-term stability and growth in tech-driven sectors. Sources used: lsm.lv, ficil.lv, reinisgischer.com, opbank.lv, luminor.lv, scoperatings.com, baltictimes.com.</p> <p>Latvia ranks third among the Baltic countries for investment outlook in 2025 due to its projected slowest GDP growth of just 0.5%—lagging Lithuania's robust expansion and Estonia's digital-driven recovery—coupled with significant downside risks from trade policy uncertainties that are expected to dampen exports and business investment. Additionally, Latvia's economy has underperformed relative to its neighbors in recent years, with lingering effects from the Ukraine war exacerbating fiscal pressures and limiting its appeal for FDI compared to Lithuania's incentives and Estonia's tech ecosystem. Sources used: windows.net, oecd.org, scoperatings.com, allianz-trade.com, baltictimes.com, imf.org.</p>
FinGPT via yeschat.ai	<ol style="list-style-type: none"> 1. Estonia 2. Lithuania 3. Latvia 	<p>If I had to choose one, I'd recommend Estonia for its strong digital infrastructure, ease of doing business, and stable economic growth. The country's tech-forward economy, supportive regulatory environment, and strategic location in the EU make it a favorable destination for foreign investment. Sources used: worldbank.org, commission.europa.eu.</p> <p>If Estonia is off the table, Lithuania would be my second choice, due to its growing industrial base, well-developed infrastructure, and competitive labour costs compared to Western Europe. Lithuania has also attracted significant</p>

		<p>foreign direct investment, especially in sectors like fintech, biotechnology, and manufacturing. Sources used: worldbank.org, investlithuania.com.</p> <p>Latvia ranks third primarily due to its smaller market size and slower pace of economic growth compared to Estonia and Lithuania. While it has strong sectors in logistics, finance, and IT, the country's relatively higher exposure to geopolitical risks and its challenges in labor market dynamics may deter some investors. Sources used: worldbank.org, oecd.org.</p>
Fiscal.ai	<ol style="list-style-type: none"> 1. Lithuania 2. Estonia 3. Latvia 	<p>Based on recent analyses, Lithuania currently offers the strongest investment outlook among the Baltic countries. This is due to its steady GDP growth of around 3-4% in recent years, a well-educated workforce, and significant foreign investment in technology and manufacturing sectors. Additionally, Lithuania's stock market has performed well, with the OMX Vilnius index up over 20% in the past year, and major companies like Ignitis Group and Šiaulių Bankas seeing significant share price increases. Sources used: nasdaqbaltic.com, tradingeconomics.com, marinelink.com.</p> <p>I would rank Estonia as the second-best Baltic country for investment. Estonia's economy is recovering with expected GDP growth of 1.5% in 2025 and 2% in 2026, supported by consumption growth and higher public investment from EU funds, despite challenges like elevated inflation and geopolitical tensions. Additionally, Estonia's stable political environment and attractive business climate make it a favorable investment destination. Sources used: investropa.com, oecd.org.</p> <p>Latvia is placed third among the Baltic countries due to significant external shocks and persistent internal structural weaknesses. The Latvian financial system faces pressure from a high-risk external environment, defined by escalating geopolitical fragmentation and economic uncertainty, which indirectly impacts Latvia through weaker demand from key EU trading partners. Additionally, the introduction of a 60% "Solidarity Contribution" tax on banks' net interest income above a certain threshold is expected to significantly impact the banking sector's profitability and capital generation capacity, creating potential conflicts between fiscal objectives and macroprudential goals. Sources used: china-cee.eu, whitecase.com.</p>

Appendix 4: All Sources Cited by LLMs Categorized

Domain	Category	Citations
allianz-trade.com	Private Companies	1

apnews.com	General News	1
balticcapitalpartners.com	IPAs or FDI-specific	1
balticnews.com	General News	5
baltictimes.com	General News	5
bank.lv	Banks, Financial Institutions	1
bti-projekt.org	Regional Development	1
cblgroup.com	Banks, Financial Institutions	2
centrumbalticum.org	Academic	1
china-cee.eu	Academic	2
citadele.lt	Banks, Financial Institutions	2
coface.com	Banks, Financial Institutions	1
commission.europa.eu	Governmental	2
ec.europa.eu	Governmental	13
eften.ee	Private Companies	1
ellex.legal	Private Companies	3
err.ee	General News	2
esm.europa.eu	Governmental	1
euronews.com	General News	1
europeanbusinessservices.com	Industry News	1
ey.com	Indices/Reports	10
facebook.com	Social media	2
ficil.lv	Indices/Reports	6
fin.ee	Governmental	1
finmin.lrv.lt	Governmental	2
fm.gov.lv	Governmental	1
ft.com	Industry News	1
imf.org	Banks, Financial Institutions	7
investinestonia.eu	IPAs or FDI-specific	3
investlithuania.com	IPAs or FDI-specific	2
investropa.com	IPAs or FDI-specific	1
kpmg.com	Indices/Reports	2
lb.lt	Banks, Financial Institutions	2
leta.lv	General News	1
lituanistika.lt	Academic	1
lrt.lt	General News	2
lsm.lv	General News	4
luminor.lt	Banks, Financial Institutions	4
luminor.lv	Banks, Financial Institutions	9
madeinvilnius.lt	General News	3
marinelink.com	Industry News	1
mdpi.com	Academic	2
mfa.gov.lv	Governmental	2

nasdaqbaltic.com	Industry News	1
naujienos.pricer.lt	General News	1
oecd.org	Indices/Reports	12
opbank.lt	Banks, Financial Institutions	3
opbank.lv	Banks, Financial Institutions	2
portugalbusinessnews.com	Industry News	1
reinsgischer.com	Private Companies	1
researchgate.net	Academic	1
reuters.com	General News	1
roedl.com	Indices/Reports	2
rubric.com	Private Companies	1
scoperatings.com	Indices/Reports	4
sgi.network.org	Academic	1
signetbank.com	Banks, Financial Institutions	1
sseruga.edu	Indices/Reports	2
state.gov	Governmental	5
swedbank-research.com	Banks, Financial Institutions	1
trade.gov	Governmental	1
tradingeconomics.com	Industry News	2
trend.az	General News	2
ttja.ee	Governmental	1
vgtu.lt	Academic	1
viabaltica.fi	Regional Development	1
vilniustech.lt	Academic	2
vm.ee	Governmental	1
vu.lt	Academic	2
whitecase.com	Indices/Reports	1
wiiw.ac.at	Academic	3
windows.net	Indices/Reports	2
worldbank.org	Banks, Financial Institutions	4

Appendix 5: Prompt Instructions for LLM to Create Narrative Arguments

Hello, I have collected information from case studies, scientific papers, governmental pages and news outlets about main country's FDI-attractor narratives. I have a total of 11 narratives which I would like to use during a narrative analysis of foreign media outlets that mentions the Baltic States. This narrative analysis will be based by analyzing text embeddings of sentences that mention the Baltic states vs the arguments of each narrative.

Yes, for each of 11 narratives, I will need you to provide me with ~45 arguments or statements. Arguments should be one sentence long, should not include names of any specific country and contain a style that you would come across in a news article. This means, that the arguments, that you will provide, must be very similar to sentences you would find in real news articles talking about these narratives.

I will provide you with a PDF document which will contain a table with all 11 narratives, their "descriptions" and "sources". These descriptions are not direct descriptions of the narratives, but they are citations from scientific literature that talks about the importance of one or another narrative for a country to be associated with which would help in attracting more Foreign Direct Investments (FDIs). So, do not just use these "descriptions" directly, but they can be helpful and allow you to think of more arguments/statements that would describe my narrative the best.

Arguments/statements must describe the narrative as well as they can from some different perspectives and specifics of it. Also, they must represent both positive and negatives perspectives of the narrative (e.g. "Corruption" narrative can talk about both country being corrupted, but also about country fighting corruption and trying to be transparent.)

Arguments/statements should be one sentence long (5-14 words each), they must be in English language, don't use too much unnecessary words which could deprive the true semantic meaning of the argument-sentence which will then affect the text embedding vector. Also, arguments/statements from different narratives should not be too similar as it would mean that the narratives will overlap by meaning and mess up the analysis.

I suggest you first analyze my file with all the narratives and their descriptions and then we generate arguments/statements for them going through narratives one after another, but one at the time. Take your time and read my file twice now, just so you capture as many details as possible.

Appendix 6. Google Search Volume Data of 6 Entities from 61 Countries

Country	"Estonia"	"Tallinn"	"Latvia"	"Riga"	"Lithuania"	"Vilnius"	Total
Global	859000	237000	511000	403000	509000	303000	2822000
United States of America (US)	172000	23000	110000	30000	150000	15000	500000
Germany (DE)	92000	32000	53000	64000	75000	34000	350000
Great Britain (GB)	58000	23000	50000	48000	67000	25000	271000

Poland (PL)	42000	7900	19000	31900	57000	33700	191500
Lithuania (LT)	6400	4100	8700	10300	61800	78000	169300
France (FR)	30600	16000	34000	25000	42900	19000	167500
Italy (IT)	33000	23000	23000	26000	31600	24000	160600
Spain (ES)	30000	17300	36000	22000	25900	11100	142300
Sweden (SE)	50000	5600	11600	17000	15100	8600	107900
Netherlands (NL)	28000	6300	20000	13000	22600	8300	98200
Canada (CA)	28300	3000	26000	5200	19300	3400	85200
Japan (JP)	32300	3200	24200	2200	21300	1200	84400
Latvia (LV)	8600	4900	35000	22100	8500	4700	83800
Türkiye (TR)	22700	3100	23600	6800	21200	4000	81400
Finland (FI)	28000	15800	8900	16300	6900	5000	80900
Romania (RO)	13000	2600	8200	34000	8400	3600	69800
Ukraine (UA)	14400	2650	5500	11600	16400	3400	53950
Australia (AU)	21000	2500	11000	3000	13000	2600	53100
Estonia (EE)	28000	15000	1900	2500	2200	1600	51200
Czechia (CZ)	7600	2400	10800	11000	13300	5000	50100
Norway (NO)	11800	5100	6300	11000	9300	4800	48300
Brazil (BR)	22400	3100	8800	2600	7500	3300	47700
Belgium (BE)	13700	2400	8900	4600	12300	2900	44800
Austria (AT)	11400	4400	7500	10000	6900	4370	44570
Mexico (MX)	13000	2100	14600	1400	10500	450	42050
Denmark (DK)	9300	2400	7200	7300	8600	4000	38800
Switzerland (CH)	8400	3500	7150	6500	7050	3400	36000
Argentina (AR)	17000	1550	7500	1100	7600	650	35400
Indonesia (ID)	15000	1200	6800	600	6600	300	30500
Slovakia (SK)	1900	1400	5900	6200	7800	3000	26200
Hungary (HU)	5100	2800	4100	4000	6000	3800	25800
Ireland (IE)	5600	3200	3900	2900	7000	2300	24900
United Arab Emirates (AE)	7290	820	4300	830	10600	410	24250
Israel (IL)	5200	1600	3600	2100	8400	2900	23800
Portugal (PT)	7100	2000	3800	4500	2700	2550	22650
Greece (GR)	6000	1500	3800	2100	5400	2000	20800
Bulgaria (BG)	6500	750	4600	950	6700	1050	20550
Saudi Arabia (SA)	3400	1400	5400	330	6300	200	17030
Egypt (EG)	3900	1250	4200	390	6500	190	16430
Malaysia (MY)	6400	1000	2800	450	5500	200	16350
Taiwan (TW)	2700	1300	1500	800	9600	110	16010
Thailand (TH)	6000	710	3700	480	4200	160	15250
Croatia (HR)	3900	1450	3100	2000	3500	1200	15150

Chile (CL)	5300	600	4300	500	3900	260	14860
Singapore (SG)	5700	1400	2800	500	3400	400	14200
Algeria (DZ)	2800	500	5700	270	4600	160	14030
South Korea (KR)	4500	750	4200	400	2800	250	12900
Slovenia (SI)	3300	1300	2700	1500	3500	500	12800
Serbia (RS)	1750	740	2000	2150	1100	1000	8740
Georgia (GE)	1200	900	1600	1100	1300	1600	7700
Azerbaijan (AZ)	2300	550	1800	750	1800	300	7500
Ghana (GH)	3100	200	800	200	1400	100	5800
Bosnia and Herzegovina (BA)	1900	450	800	1100	850	160	5260
Cyprus (CY)	1140	500	960	700	910	480	4690
Qatar (QA)	1530	160	1150	110	1400	60	4410
Albania (AL)	1100	350	1950	350	430	150	4330
Luxembourg (LU)	2200	350	530	350	600	300	4330
Moldova (MD)	900	200	800	400	850	150	3300
North Macedonia (MK)	980	210	640	370	450	110	2760
Iceland (IS)	640	300	420	410	530	440	2740
Armenia (AM)	730	170	750	320	380	260	2610