

NIC Undergrad Review

June 2025

NIC

— Undergraduate Division —

Editor's Note.

Dear reader,

It is with great pleasure that I present to you the third edition of the NIC Undergrad Review for the academic year 2024-2025.

This edition begins with a brief overview of the Iberian Markets, followed by an analysis of key M&A activity in Q1 2025, including the acquisition of Wiz by Alphabet. We also explored the speciality chemicals industry and provided a business deep dive into ASML, covering peer analysis, risks, and catalysts. Additionally, we present an article titled "Deep Dive: Contracts for Difference", and a detailed look at the important role of market makers, how they operate, and why they sometimes fail. To conclude, we had the pleasure of interviewing Sofia dos Santos Nunes, a NIC alumna, who is currently a founder's associate at Rypples and shared unique perspectives on career shifts and the importance of following a sense of purpose in our careers, even if that comes later on.

Lastly, I would like to thank all the members who contributed to this edition: Afonso Monteiro, Afonso Freitas, Francisco Viegas, Francisco Borges, Lucas Faísca, Miguel Patrício, Rafael Dias, and Yash Chauhan.

Best regards,

Raquel Mendes

Editor-in-Chief

CONTENTS.

Page 4 **Quick Take on Iberian Markets**

Page 5 **M&A Analysis**

Page 7 **Industry Overview** Speciality Chemicals

Page 10 **Business Deep Dive** ASML

Page 13 **Deep Dive: Contracts for Difference**

Page 15 **Understanding Market Makers**

Page 19 **Interview with Sofia dos Santos Nunes**

Quick Take on Iberian Markets



Rafael Dias

Start Campus launches € 8.5bn data centre project in Portugal. U.S. investment fund Davidson Kempner and the UK's Pioneer Point Partners have committed €8.5bn to build a data centre hub in Sines by 2030. The joint venture, Start Campus, has launched its first building with 26 MW capacity, set to scale up to 1.2 GW. Without EU or Portuguese public support, this privately funded project will support AI, cloud infrastructure, and high-performance computing. It is located on Portugal's Atlantic coast and aims to meet global demand for digital services. Economy Minister Pedro Reis called it a "structuring investment", while CEO Robert Dunn described it as "the backbone of Europe's AI future".

Portugal's credit rating upgraded by S&P amid financial strength. Global ratings agency S&P has upgraded Portugal's sovereign credit rating from "A-" to "A", citing a stronger external financial position and reduced liquidity risks. Despite potential U.S. tariffs on the EU and broader geopolitical uncertainty, S&P remains confident in Portugal's economic resilience, noting its solid policy record and ongoing external and government deleveraging. However, the agency cautions that with inflation easing and growth normalising, the pace of debt reduction will likely slow between 2025 and 2028. It also forecasts a moderation in GDP growth after 2026 as the impact of the EU's NextGen stimulus fades.

Masdar considers acquiring a stake in TotalEnergies' Portuguese renewables. Abu Dhabi's Masdar is exploring acquiring a stake in TotalEnergies' Portuguese renewable assets. While Masdar declined to specify the stake size, they confirmed their focus on expanding in Iberia to reach a global target of 100 GW by 2030. TotalEnergies has around 600 MW of renewable capacity in Portugal, mainly in wind, as part of its plan to divest about 2 GW annually. Masdar has also expanded its European footprint with recent deals in Spain and Greece. The energy sector is one of Portugal's most vital industries, and this investment is key to strengthening the country's renewable energy infrastructure and global positioning.

Air France-KLM eyes expansion in Iberia with Air Europa and TAP. Air France-KLM has confirmed it is in talks to acquire a stake in Spanish airline Air Europa, marking a renewed push into the Iberian market. CEO Ben Smith revealed the group recently met with Air Europa's leadership, though details on the size or structure of a potential deal remain undisclosed. The Spanish carrier is valued at up to €1bn and is seeking capital to repay €475M in government loans issued during the pandemic. Smith also reiterated interest in acquiring a stake in Portugal's national airline TAP, which the Portuguese government plans to privatise this year. While Lufthansa and IAG are also contenders, Air France-KLM believes its strategic positioning could offer a competitive edge. The CEO emphasised the group seeks gradual ownership with a "clear path" to control, rather than full takeovers upfront - an approach aimed at easing regulatory concerns in Europe's tightly watched aviation sector.

MasOrange, Spain's €20bn telecom giant, considers IPO. The private equity owners of Spain's largest telecom operator, MasOrange, are exploring an IPO next year, following a €20bn merger between Orange España and MásMóvil in 2022. KKR, Cinven, and Providence Equity Partners are considering the move after a two-year lock-up period ends in April 2026. If triggered, Orange can acquire a controlling stake at the IPO price. Meanwhile, MasOrange is also planning to sell a stake in a new fibre optic venture with Vodafone Spain, aiming to cover over 12M premises. The deal is expected to close by mid-2025.

M&A Analysis



Afonso Monteiro

Record Value, Shrinking Volume: Dubious Start to 2025

Overview

M&A activity in Q1 2025 showed mixed signals on market optimism and investor confidence, challenging the accuracy of the 2025 outlook. Global deal value rose 15.5% YoY to $827bn, mainly driven by five mega deals ($10bn+) in March. However, market sentiment remained cautious, as the number of transactions announced so far has hit a two-decade low. Initial optimism following Trump's election, fueled by deregulation and tax cuts, has shifted to caution amid trade tensions, unresolved geopolitical conflicts, and economic slowdown concerns.

A key highlight this quarter was the significant rise in deal value despite fewer transactions. Asia Pacific led growth, with deal value surging 53% to $166.7bn, reversing three years of decline. This rebound is largely due to China's revival of M&A activity as regulatory restrictions ease to stimulate growth. EMEA followed with a 23.4% increase to $197.2bn, while North America saw a modest 4% increase to $448.3bn. Oil and Gas dominated Q1 deals at 23%, driven by a surging demand for energy-intensive data centers supporting AI growth that outpaces renewable energy capacity growth, pushing up demand for traditional energy sources, while the U.S. rolls back on decarbonization efforts as well. Technology M&A followed at 21%, as companies expand in cloud computing, cybersecurity requirements, and IoT adoption, responding to surging AI-driven data demand.

A bright spot in M&A this quarter was for private equity, which saw global buyout activity rise 58% YoY to $152.4bn. APAC led with a 235% buyout value surge, as PE funds rebalance geographically to offset tariff impacts, targeting undervalued assets in India and Southeast Asia, particularly in tech and infrastructure. Meanwhile, PE exits surged 49% YoY, as funds face growing pressure to deliver returns to investors amid global uncertainty.

M&A sentiment for 2025 remains dubious, with cross-border deals particularly affected by protectionist trade policies. Still, potential promised deregulation, in the U.S., and worldwide rate cuts later in 2025 could ease financing conditions, supporting LBOs and larger acquisitions.

Most relevant deals in the first quarter of 2025

Announced Date	Target	Buyer	Target Region	Target Industry	Value
18/03/2025	Wiz, Inc.	Alphabet Inc.	ISR	Cybersecurity	$32 billion
04/03/2025	CK Hutchison	BlackRock – TiL	HK	Port Operations	$22.8 billion
24/01/2025	Mediobanca	Banca Monte dei Paschi di Siena	ITA	Banking Services	$13.86 billion
03/03/2025	NOVA Chemicals	Borouge Group International	CAN	Chemical Manufacturing	$13.4 billion
10/03/2025	Veren Inc.	Whitecap Resources Inc.	CAN	Oil and Gas	$ 10.43 billion
06/03/2025	Walgreens Boots Alliance	Syncamore Partners	US	Pharmaceuticals	$10 billion
31/03/2025	Mr. Cooper Group	Rocket Companies	US	Mortgage & Real Estate	$ 9.4 billion
25/02/2025	Innergex Renewable Energy Inc	Caisse DP Quebec	CAN	Renewable Energies	$ 7 billion

Alphabet acquires Wiz

Deal Structure

On March 18th, Alphabet announced one of the largest tech deals ever – and its biggest to date – with the acquisition of Israeli-American cloud security start-up Wiz for $32bn in an all-cash transaction. Conversations started on July 24, when Wiz rejected Google's initial $23bn offer. During the same period, the start-up secured its latest round of financing, valuing it at $12bn. Alphabet will pay a 45.7x EV/Revenue, a premium presumed justifiable given Wiz's 70% year-on-year revenue growth, reaching $700 million in 2025. The deal structure includes a $3.2 billion (10%) breakup fee payable to Wiz in the event the transaction falls through.

Bank of America was Alphabet's advisor, whilst Goldman Sachs supported Wiz.

The Rationale

Cyber-attacks and IT risks are growing as traditional cloud security approaches struggle to keep up with the evolving technological landscape. As organizations engage in the digital shift, most deployments are now multicloud or hybrid, which are far more complex to manage than single-cloud environments. Beyond that, the integration of AI platforms into enterprise products and operations increases overall tech risk exposure as well.

Currently, Google Cloud provides systems that enable the detection and response to cyberattacks through SaaS-based services and cybersecurity solutions. Wiz offers a cloud security platform that connects with all major clouds and code environments to help prevent incidents before they happen. It also empowers software developers to address risks in code and secure applications before deployment. In short, the acquisition signals a shift from reactive to proactive cloud security, on Google's side.

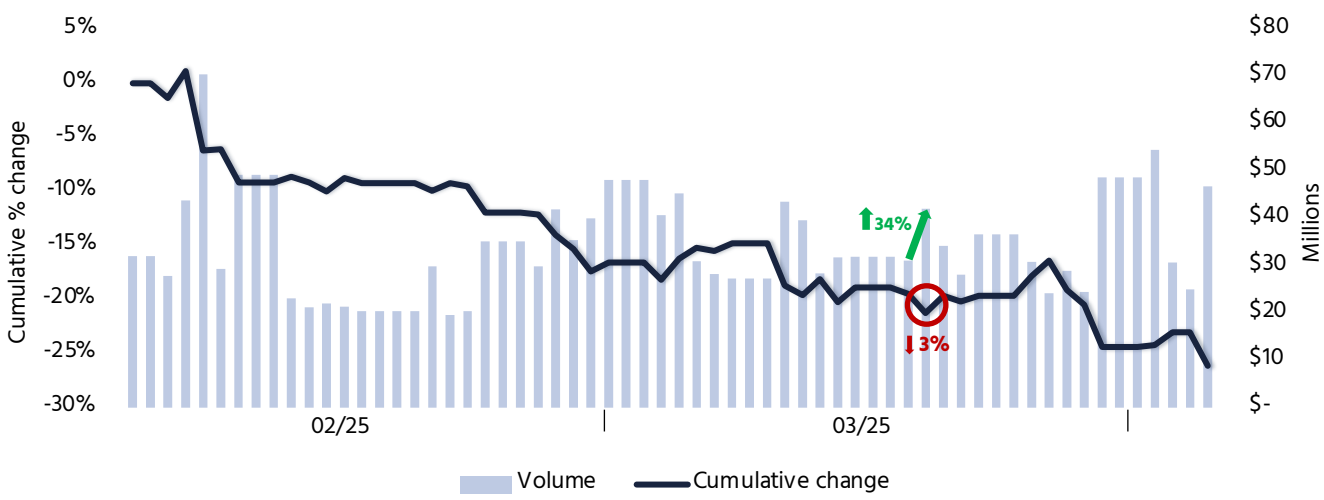
Though the tech giant and the start-up already work together, this acquisition will make it easier and faster for organizations to secure their environments across all major clouds. And, for Wiz, Google's leadership in cloud infrastructure means its solutions can scale faster to more organizations.

Importantly, there is no exclusivity agreement in the deal – Wiz will remain available on competing clouds, while Google will continue to work with other cloud security providers to offer customer choice.

Market Reaction

The market did not respond positively to the announcement as the share price fell 3%. Still, it seemed to have gone by quietly, as the next day it jumped back to where it was. Investors are so focused on the bigger picture right now – trade war tensions, inflation pressures, and recession risks – that even a major deal like this doesn't move the needle much, as the potential benefits of this acquisition are not top of mind at this moment.

Alphabet's stock performance



(Source: TradingView)

Industry Overview:
Speciality Chemicals



Yash Chauhan

A Backbone of Manufacturing

What are Speciality Chemicals?

Speciality chemicals, also known as performance chemicals, are chemicals created to serve a particular function in the manufacturing process, having few or even singular core applications.

Commodity Chemicals vs Speciality Chemicals

Commodity chemicals have broad industry applications, are produced in bulk quantities by a large number of players, and due to standardized production methods, there is little to no difference between one manufacturer's product and another's. On the other hand, speciality chemicals are characterized by the possibility of being customizable, as they have the sole purpose of meeting a specific client demand, which translates into large R&D costs, proprietary formulations, and the use of license agreements or patents. This translates into high barriers of entry to the industry, low-volume production, fewer players, and pricing leverage of the products.

Market Overview and Segmentation

The speciality chemicals industry had a worldwide market capitalization of around $640.8 billion in 2023 and is forecasted to reach nearly $939.7 billion by 2031, with a CAGR of 5.1% YoY.

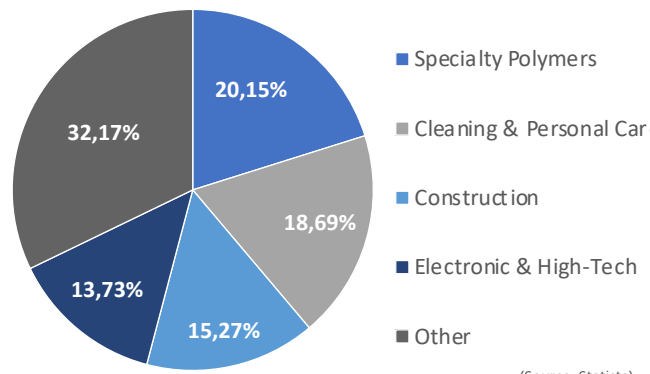
It is possible to group speciality chemicals in four broad segments based on their primary industrial use: Specialty Polymers, Cleaning and Personal Care Chemicals, Construction Chemicals, and Electronic Chemicals.

An important consideration is that there are other and various niche applications of speciality chemicals with small market share significance but with great growth prospects, such as agro, oilfield, and even textile chemicals.

The four main segments are detailed below:

- **Specialty Polymers** include plastic additives, stabilizers, impact modifiers, adhesives, and sealants. These products improve material properties across industries.
- **Cleaning and Personal Care Chemicals** cover surfactants, cosmetic ingredients, industrial cleaners, and water treatment chemicals.
- **Construction Chemicals** include concrete admixtures, waterproofing agents, sealants, and coatings, enhancing the performance and durability of building materials.
- **Electronic and High-Tech Chemicals** refer to products like photoresists, specialty gases, and conductive polymers, which are critical in semiconductor manufacturing, electronics assembly, and advanced component production.

Market Share by Segment (%)



(Source: Statista)

Regions

The specialty chemicals market is a globally diversified one, but growth and consumption remain unbalanced between different regions, primarily determined by the number of end-use industries. As a result, the Asia-Pacific region is both the market leader and the one with higher growth prospects.

Asia-Pacific

The Asia-Pacific region is driven by rapid industrialization, urbanization, and the strong manufacturing base of countries like China, India,

and Japan. The region's main end-user industries include construction and automotive (specialty polymers), but also electronics and personal care. China's position as a global manufacturing powerhouse and India's expanding automotive and construction sectors have solidified the importance of the Asia-Pacific region for specialty chemicals.

North America

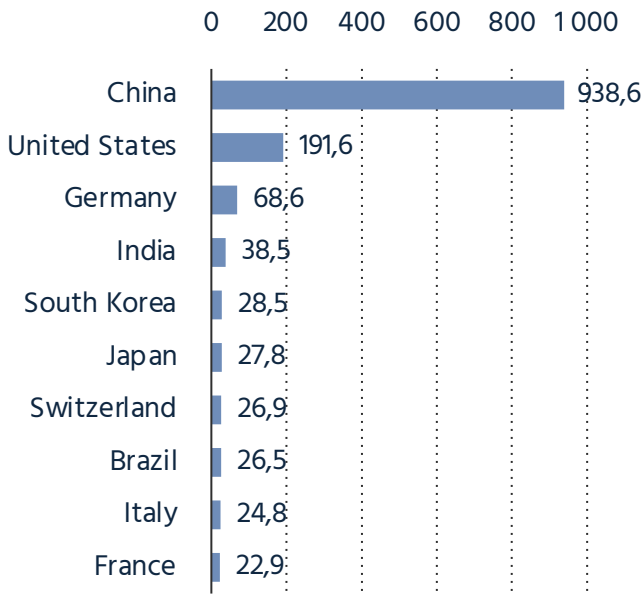
North America stands out as one of the most technologically advanced markets, with the U.S. driving demand for speciality chemicals due to their use in electronics, as well as across the water treatment, automotive, and personal care sectors. Regarding the last one, it is possible to observe resilient demand for industrial cleaning agents such as lubricants and coatings.

Europe

The continent is a solidified and mature market with stricter regulations regarding product safety and sustainability, which can lead to further innovation and development of formulations. Germany held the largest market share, with the chemicals application centred around the automotive industry, and the UK Specialty Chemicals market was the fastest-growing market in the European region.

Revenue of Speciality Chemicals by Country in 2023

in billion euros



(Source: Statista)

Growth Drivers

One of the most exciting aspects of the speciality chemicals industry is its correlation with major global trends.

Although each individual product has limited uses, there is an incredible amount of diversification among industrial applications.

In other words, innovation and growth in different sectors lead to a corresponding increased demand for speciality chemicals that are necessary for that industry.

Urbanization and Industrialization

Usually, this concerns Emerging Markets, where expanding cities and industries increase demand for construction materials and performance-enhancing additives across sectors like infrastructure, automotive, and consumer goods.

End-Use Industry Expansion

Certain key end-use industries will shape the industry's future growth with emphasis on automotive, construction, electronics, and healthcare.

In the automotive industry, the shift toward electric vehicles (EVs) is a highlight. The global EV market is projected to grow from $670.28 billion in 2024 to $1,069.48 billion by 2029, representing a CAGR of 23.4%. This growth necessitates the use of advanced materials, including high-performance coatings, adhesives, lightweight composites, and battery electrolytes.

In a similar vein, electronics and semiconductor industries are expanding at a rapid pace, driven by innovation. The market for electronic chemicals and materials is projected to grow from $59.1 billion in 2023 to $77.8 billion by 2028, at a CAGR of 5.6%. The growing demand for specialized materials essential for semiconductor fabrication is fuelling this expansion.

In the healthcare and personal care sectors, plant-based and sustainable ingredients are influencing the growth of specialty chemicals. As consumer preferences shift regarding wellness products, speciality chemicals become crucial components for guaranteeing the safety of these products.

Sustainability

As already mentioned, sustainability can dictate the direction and degree of innovation of the specialty chemicals formulations. In the U.S., the Environmental Protection Agency (EPA) sustainability initiatives created new regulations aimed at reducing carbon emissions by 40% from industrial sources by 2030, along with a $369 billion investment in clean energy, opening opportunities in sectors such as biodegradable plastics and green solvents. The construction and automotive industries have also seen increased demand for eco-friendly chemicals. In construction, low-emission materials such as energy-efficient coatings are required, while the production of electric vehicles increases the demand for lightweight composites and advanced coatings.

Risks

Exposure to Commodity Prices

Speciality chemicals are generally produced using commodity-based raw materials and are therefore heavily impacted by fluctuations in material prices, particularly oil, gas, and metals. A recent example is the 2022 geopolitical conflicts in Europe, which led to a surge in oil prices. Manufacturers often face pressure to absorb these costs or pass them on to customers, which can affect profitability. This dependency on fluctuating commodity prices, which are by nature volatile, makes the industry vulnerable.

Cyclicality

Similarly, the sector is sensitive to economic cycles. During periods of economic growth, demand for chemicals in industries like automotive, construction, and electronics rises. Conversely, in economic slowdowns, the sector is affected. To illustrate, during the 2015-2016 slowdown in China, demand for specialty chemicals used in these industries decreased, leading to reduced production and pressure on profit margins for chemical manufacturers.

Regulatory Risks

The increments on chemical regulations could be considered a double-edged sword as regulation leads to better and innovative products while simultaneously leading to unpredictable shifts in formulation.

Depending on the severity of governmental impositions, companies' business models and production approaches can undergo a 180-degree overturn, leading to financial constraints in the effort to comply.

The EU's 2022 Restrictions Roadmap and the 2025 REACH revision introduce stricter chemical safety regulations, including group restrictions on harmful substances and expanded data requirements related to environmental and health risks.

Key Companies

Some of the biggest names in the market are diversified chemical enterprises with speciality segments, such as BASF, the world's largest chemical producer, and Evonik, which supplies numerous speciality chemicals and operates in over 100 countries, both being German companies. Alongside them are DOW (US), LANXESS (GER), Clariant (SWZ), Solvay (BE), Arkema (FR), and Huntsman (US), all of which operate in both speciality chemicals and commodity chemical segments. Companies with speciality chemicals as their core business include Nouryon (NLD), Croda (UK), and Albemarle (US).

Typical KPIs

Besides the common financial metrics, some of the key performance indicators for chemical producers include:

- Return on Capital Employed
- Absolute CO2 emissions (Scope 1 and 2)
- Capacity Utilization Rate
- R&D intensity(% of Revenue) or other R&D measures
- Total Recordable Incident Rate

Conclusion

All in all, the specialty chemicals industry has been on a steady growth. As industries push for better performance and more efficient materials, as well as lower environmental impact, specialty chemicals will benefit and grow alongside the major global manufacturing trends.

Business Deep Dive
ASML



Miguel Patrício

ASML Holding NV is a leading Dutch multinational company at the forefront of the semiconductor industry. Founded in 1984 and headquartered in Veldhoven, Netherlands, ASML engages in the development, production, marketing, sales, upgrading, and servicing of advanced semiconductor equipment systems. It is the only company in the world that produces extreme ultraviolet (EUV) lithography machines, essential for making the most advanced microchips used in smartphones, computers, data centres, and artificial intelligence.

ASML collaborates closely with major chipmakers, including Intel, Samsung, and TSMC, enabling the continued scaling of Moore's Law by providing tools that allow the design of smaller, faster, and more energy-efficient chips. The company's innovative technology and vital role in the global tech ecosystem have made it one of the most influential players in the semiconductor supply chain. ASML is traded on Euronext Amsterdam and NASDAQ under the symbol ASML.

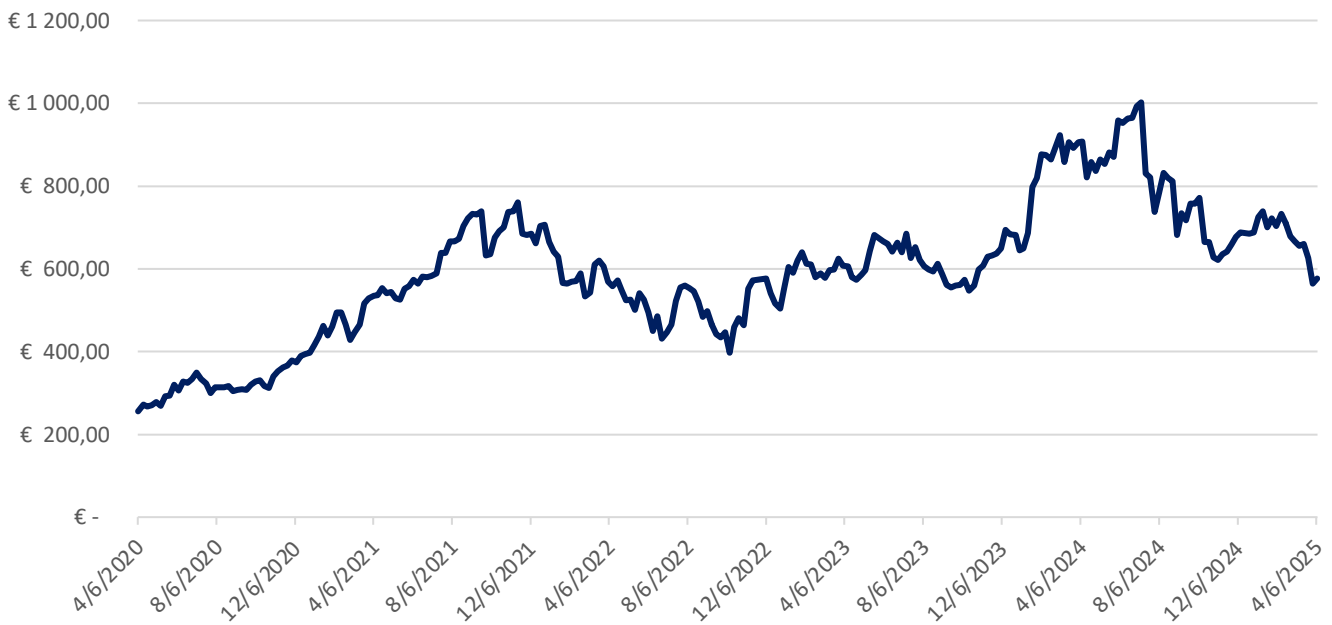
Markets

ASML is currently trading near its 52-week low, around €588.90, after experiencing a decline of approximately 31% over the past year. Despite the recent downturn, the company has still delivered a strong long-term performance, with its stock price rising over 145% in the last five years, significantly outperforming the S&P 500 index during the same period.

Company Data	
Price	€588.90
YTD Performance	-12.76%
52-week Range	€508.40 - €1,021.80
Shares Outstanding (M)	392.95
Market Cap (Bn)	€228.30
Enterprise Value (Bn)	€222.88

Market data from 26/04/2025

Price Performance



Business Model

ASML's business model focuses on the development, sale, and servicing of advanced semiconductor lithography systems, which are essential tools in the production of integrated circuits, also known as microchips. They are used to pattern intricate circuitry onto silicon wafers, a critical step in manufacturing chips.

The company's primary source of revenue is the sale of its state-of-the-art lithography equipment. ASML's portfolio includes Deep Ultraviolet (DUV) systems for more mature nodes, featuring several technology types within DUV, such as ArFi, KrF, ArF Dry, and I-Line, as well as its most advanced offering, Extreme Ultraviolet (EUV) lithography systems. These EUV machines are critical for producing the latest generation of chips at the 5nm, 3nm, and smaller technology nodes. Each EUV unit is priced between $150M and $200M, making them some of the most complex and expensive machines in the world. Only a small number of leading semiconductor manufacturers, such as TSMC, Samsung, and Intel, can purchase and utilise them effectively. Combined, ASML's EUV and ArF Immersion systems account for more than 63% of the company's total revenue, with ArF immersion contributing around 34.2% and EUV systems making up approximately 29.44%.

Beyond equipment sales, ASML generates a significant portion of its revenue, roughly 23%, from its Service and Field Options segment. This includes system upgrades that enhance the performance, productivity, and longevity of existing lithography tools, as well as maintenance and support contracts. These service agreements cover everything from preventive maintenance and on-site technical support to spare parts and operator training. ASML also provides financial solutions to help customers fund purchases or upgrades, further reinforcing long-term partnerships and recurring revenue.

Through this integrated approach, delivering both cutting-edge lithography systems and ongoing support, ASML created a model with recurring revenues and a powerful moat.

Market Analysis

The lithography machines market, in which ASML holds a dominant 90% market share, is a critical component of the global semiconductor industry. These machines are essential for producing the most advanced microchips used in smartphones, computers, data centres, and artificial intelligence applications.

The market is projected to grow at a high single-digit compound annual growth rate (CAGR), around 9%, driven by increasing demand for high-performance and energy-efficient chips. ASML enables the continued advancement of Moore's Law, the observation that the number of transistors on a microchip doubles approximately every two years, by providing the cutting-edge tools required to manufacture smaller, faster, and more power-efficient integrated circuits.

Peer Analysis

ASML holds a unique position in the market, with no direct peers, as it is the only company worldwide that produces EUV machines and has a 90% market share of the ArFi machines. The main peers, Nikon and Canon, only appear in outdated segments, such as KrF, ArF Dry, and I-Line. These segments account for only 10% of ASML's revenues and have no direct comparison with the most advanced lithography machines, being only used for mature nodes (e.g., 28nm and above).

Machine type	% of Total Revenue	Specifications
Argon Fluoride Immersion (ArFi) - DUV	34%	Advanced lithography systems that use 193nm ArF lasers and liquid immersion to print ultra-fine patterns, critical for nodes like 7nm and 5nm.
Extreme Ultraviolet - EUV	29%	State-of-the-art lithography systems using 13.5nm light, enabling the smallest and most complex chip designs (e.g., 5nm, 3nm, and beyond).
Krypton Fluoride (KrF) - DUV	7%	Uses 248nm light for mature-node chip production; still widely used in memory and legacy logic manufacturing.
Argon Fluoride Dry (ArF Dry) - DUV	3%	Non-immersion ArF lithography systems, used for less critical layers or mature node production.
I-Line - DUV	1%	Older lithography systems using 365nm wavelength, typically used in mature or specialty technologies.

Financial Overview

ASML has steadily grown its revenue over the last five years, doubling from €13.98 billion to €28.26 billion. EBITDA and Net Income followed, reaching €9 billion and €7.5 billion, respectively, with expanding margins, including an exceptionally high net margin of 28.3%, rare for this industry. Despite the Operating Cash Flows following the same positive trend, due to significant increases in Investing Cash Flows, mainly in Capital Expenditures, Free Cash Flows have remained relatively stable in recent years. To support future financial stability, ASML maintains a robust order backlog exceeding €35 billion. In terms of valuation, ASML has a P/E ratio of 28.54 and a forward P/E ratio of 22.44, which is relatively undervalued considering the company's moat.

Risks and Catalysts

Risks

- **Geopolitical sensitivity:** ASML is in the middle of the U.S.-China tensions and is currently restricted from selling EUV machines to China, which limits revenue opportunities and potentially opens the door to new competitors.
- **Tariffs:** With the core assembly of its lithography systems based in the Netherlands, ASML is susceptible to tariff impacts from the U.S.
- **Cyclicality:** ASML's revenues are tied to the capital spending cycles of chipmakers, which are highly cyclical. During downturns, such as a memory glut or oversupply, demand for lithography tools can drop sharply.
- **Pressure on know-how and intellectual property (IP) protection in ecosystem:** SML's strength relies on innovation and IP protection, but it faces growing risks from cyber and security threats within its ecosystem.
- **Customer dependency:** ASML's three largest customers, TSMC, Intel, and Samsung, account for approximately 80% of the company's total revenue. This heavy reliance on a small number of customers creates a significant dependency on the success, investments, and continued demand from these companies.

Catalysts

- **Climate change and resource efficiency:** Semiconductors are essential for greener and more efficient technologies, such as electric vehicles, smart grids, and precision agriculture. With significant potential to become even more energy and resource-efficient, semiconductors represent a key sustainability driver, and ASML's innovations are critical to unlock this.
- **Technological sovereignty:** Governments are increasingly recognizing the strategic significance of semiconductor manufacturing, and chip acts are incentivizing customers to establish manufacturing facilities in the US, Europe, and Asia.
- **AI-Driven Semiconductor Growth:** The growth in AI demand is expected to continue supporting the expansion of the semiconductor industry, which should drive higher demand for ASML's lithography equipment.
- **High-NA EUV lithography:** ASML is launching High-NA EUV systems, the next-generation lithography, which will enable even smaller chip designs, opening a new revenue stream with new machine sales ($300M+ per unit) and subsequent service and maintenance contracts.
- **Secular Growth Trends:** Semiconductors are present in every aspect of modern life and are essential to the continuation of several secular growth trends, such as digitalisation, virtual reality, data centres, efficient data processing, real-time analytics, and enhanced connectivity.

Conclusion

ASML's monopoly on cutting-edge EUV lithography machines, the most advanced in the world, positions it as one of the most powerful, yet least known, companies in the world. Despite underperforming when compared to its main customers in the short term, its strategic significance is unmatched. ASML's well-crafted business model generates recurring revenues with some of the highest margins in the industry and positions the company to continue profiting from various secular growth trends while enhancing its moat.

Deep Dive: Contracts for Difference



Lucas Faísca

Trading without Ownership

Introduction

In today's fast-moving and increasingly complex financial markets, not all traders seek to own the asset they speculate on. Instead, many turn to synthetic instruments, which are financial products that replicate the performance of an asset without requiring ownership. Contracts for Difference (CFDs) offer a way to gain exposure to stocks, currencies, commodities, and indices without ever taking delivery of the underlying asset.

CFDs are derivative contracts, agreed upon between a trader and a broker, that allow participants to speculate on price changes with relatively low upfront capital, thanks to leverage.

Initially developed in the early 1990s by London-based hedge funds to avoid UK stamp duty on shares, CFDs have since become widely used by retail and professional traders. Their popularity stems from their flexibility: traders can go long or short, apply leverage, and access a broad range of markets and asset classes from a single platform.

This article explores how CFDs work, the strategies behind them, their risks and benefits, and where they stand in today's financial ecosystem.

What are Contracts for Difference (CFDs)?

A Contract for Difference is, as the name suggests, a financial agreement between two agents, the buyer and the seller, to exchange the difference in the value of an underlying asset between the time the position is opened and when it is closed. With this instrument, the trader is speculating purely on the price movement.

To open a long position, a trader buys a CFD unit tied to the underlying asset, speculating that the price will increase. If the speculation is correct, the seller pays the difference in price from open to close. If the price decreases instead, the trader must pay the seller, who is typically the broker, the difference.

Opening a short position is the exact opposite: the trader "sells" a certain amount of CFD units and profits from the difference if the price of the underlying asset drops. The aforementioned CFD units are 1:1 replications of the underlying asset, meaning that when a trader opens a CFD position, they define their exposure to the asset, for example, by specifying the number of company shares, which is determined by the number of units bought or sold. This is where leverage, the decisive factor, comes in. The vast majority of CFD products are leveraged, meaning that only a comparatively small deposit is required upfront to "control" a substantial position. This leverage typically ranges from 5:1 to 30:1, allowing exposure to the movement of as many as 30 shares for an initial deposit equal to the value of one share. As with any leveraged product, this amplifies both gains and losses, which is what makes CFDs inherently risky.

The Mechanisms Behind CFDs

CFDs are margin products, which means they are traded on leverage. A trader only needs to deposit a small fraction of the trade's notional value, called the initial margin. The margin serves as collateral and is usually a percentage of the contract's total value. As explained, this allows for greater exposure than the invested capital would otherwise permit. For example, with a 10:1 leverage, a €1,000 margin enables the trader to control a €10,000 position.

When a CFD position is opened, the broker allocates the required margin, and the position is marked to market in real-time, meaning gains and losses are updated constantly based on the underlying asset's movement. Suppose losses increase to the point where the trader's equity (initial deposit minus losses) falls below the maintenance margin set by the broker. In that case, a margin call may be issued, requiring the trader to deposit additional funds to keep the position open.

Pricing and Spreads

CFD prices are derived directly from the price of the underlying asset. As with regular stock exchanges, there are spreads – the differences between ask and bid prices. However, unlike exchange-traded products, CFDs are over-the-counter (OTC), meaning they are not traded on a central exchange. The broker is the exclusive counterparty to these trades, basically forcing the trader to accept the broker's higher ask price when buying and lower bid price when selling. The broker essentially has complete control over setting the ask prices for CFDs, since they do not rely on a bid-ask matching mechanism. Thus, the trader depends on the broker for fair pricing and execution, which can sometimes represent a risk.

With CFDs, the spread represents a transaction cost to the trader, on which the broker makes its profit from executing these trades. Spreads are a key cost that can reduce profitability, especially in volatile markets.

Just like in central exchanges, spreads are bigger (looser) when volatility is higher. In the case of CFDs, this serves as a safeguard for the brokers: a buffer between the trader's profits and the broker's losses. These higher spreads make profits from small price movements in volatile situations harder, since the underlying asset must first achieve the higher ask price that the trader had to pay for the investor to break even.

Strategies and Risks

The primary use and trading strategy for CFDs involves pure speculation on the price movements of securities, commodities, and currencies. There is another strategy, primarily employed by institutional traders, for which CFDs are particularly useful and widely utilized: hedging, a crucial risk management technique.

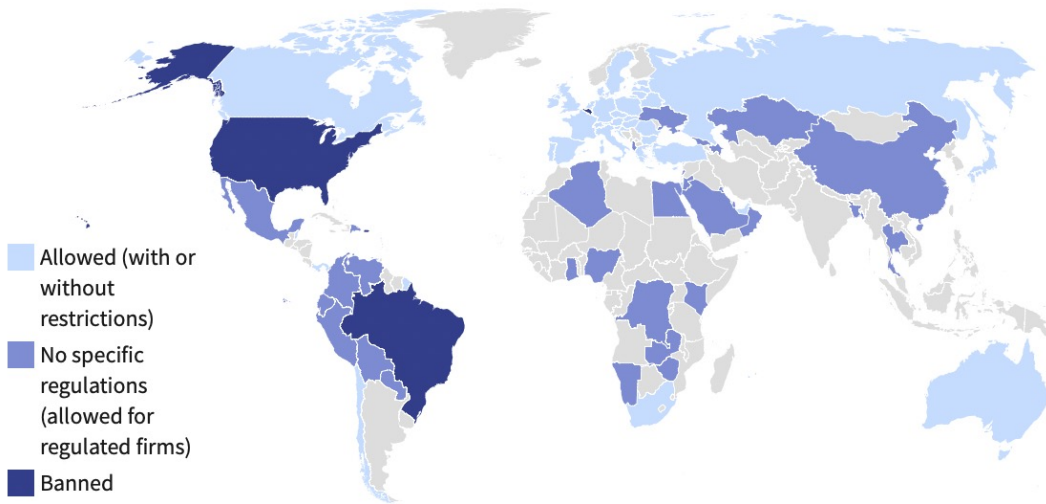
CFDs are attractive instruments for hedging, as they enable simple shorting without the need to borrow shares, making the process straightforward.

The primary risk associated with CFDs is the magnifying effect of leverage, which exposes traders to positions that are significantly larger than their initial deposits. Other risks include counterparty risk, since, as mentioned, traders depend on their brokers for fair pricing and trade execution. Additionally, traders may also lose deposits if brokers become insolvent or commit fraud, as they do not own the underlying assets.

Conclusion

CFDs are simple but inherently risky derivatives. Their leverage magnifies gains and losses, making them useful for complex institutional risk management strategies. For retail traders, however, CFDs are often synonymous with pure speculation, which is why they are banned in countries like the U.S. and Belgium.

Overview of CFD Regulation



(Source: Investopedia)

Understanding Market Makers



Francisco Viegas

How Liquidity Providers Operate and Where They Can Fail

Introduction

In every functioning financial market, when an investor places a buy or sell order, there's usually a silent counterparty standing ready to take the other side of the trade. That role is often filled by market makers: specialized firms that continuously quote prices to ensure liquidity and facilitate trading.

By simultaneously posting both a bid (buy price) and an ask (sell price), market makers stand ready to transact with market participants at any time, keeping markets liquid and ensuring continuous trading and price stability. At the heart of their business is the bid-ask spread, a small margin that, when multiplied across millions of trades per day, generates substantial profits.

Market makers sit at the intersection of liquidity provision, price formation, and, at times, controversial trading practices. Their presence can stabilize markets under normal conditions, but their withdrawal can exacerbate volatility under stress.

This deep dive aims to explain what market makers are, how they operate, and why their role is both essential and, at times, contested.

History of Market Making

The structure of market making has undergone significant changes over the past few decades, driven by technological advancements and the evolving architecture of financial markets. Before the 1980s, most market makers were human specialists operating on physical trading floors, particularly at the New York Stock Exchange (NYSE). These individuals manually managed the order flow, matched buyers and sellers, and adjusted prices using their judgment. This process was inherently slower, relying on face-to-face communication and physical presence.

The 1980s and 1990s marked a turning point, as trading became increasingly electronic. Although NASDAQ had been operating as the first electronic stock market since 1971, the proliferation of electronic communication networks (ECNs) in the 1990s further revolutionised trading. ECNs like Instinet, established in 1969, enabled orders to be routed and matched automatically, transitioning trading from traditional floor and voice-based methods to screen-based execution.

In the late 1990s and early 2000s, the rise of high-frequency trading (HFT) took this evolution to a new level. Firms used co-location, low-latency infrastructure, and predictive algorithms to execute thousands of trades per second. Market making was no longer about being present on the floor. It became a data and infrastructure race, dominated by firms like Citadel Securities, Virtu Financial, and GTS Securities.

Today, market-making is a fully technology-driven activity. These firms operate globally, using machine and real-time risk systems to manage inventory and quote prices across multiple markets simultaneously. The result is a market that is faster and more efficient but has also introduced new risks and a level of complexity that makes market behaviour harder to monitor and regulate.

What is Liquidity and How do Market Makers Provide it

In financial markets, liquidity describes the ease with which an asset can be traded, bought, or sold, without causing a significant change in its price.

A highly liquid market allows investors to enter and exit positions quickly, at prices close to the current market value. On the other hand, illiquid markets experience wider bid-ask spreads, slower execution, and more price slippage.

In this context, liquidity is not just a convenience – it's a fundamental requirement for efficient and stable markets. When liquidity is abundant, the market operates smoothly.

But in times of stress or low participation, it becomes harder to find a counterparty willing to take the opposite side of a trade. This is where market makers play a critical role. Even when natural buyers or sellers are absent, market makers step in to fill the gap, reducing the friction involved in trading.

In this sense, liquidity is not an automatic feature of financial markets – it is actively supplied. And in modern markets, that supply is heavily dependent on the presence of market makers. Their role is not simply to match trades, but to stand in the middle of supply and demand, absorbing short-term imbalances and enabling the market to function efficiently. Without them, assets would be harder to price, more volatile, and more expensive to trade.

Profit Models in Market Making

Market makers are often portrayed as neutral facilitators of trade, helping markets function smoothly by always being ready to buy or sell. But beneath that role lies a highly optimized business model designed to profit from the mechanics of the market structure itself. But rather than relying on directional bets or speculation, market makers earn revenues by positioning themselves strategically within the flow of market activity. They earn from the bid-ask spread, collect rebates from exchanges to provide liquidity, and internalize order flow from brokerages.

In this section, we break down how market makers generate revenue and explore how technological advancements have turned liquidity into one of the most profitable functions in modern markets.

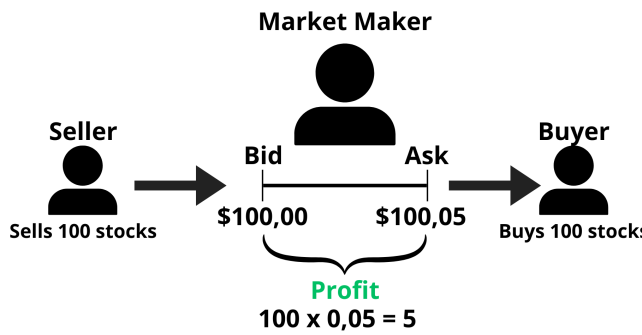
Bid-Ask Spread

At the heart of the market-making business is the bid-ask spread, the difference between the price at which a market maker is willing to buy (bid) and the price they're willing to sell (ask). This small gap, often just a few cents or a fraction of a cent, represents the most consistent and fundamental source of revenue for market makers.

This model is based on liquidity provision, not market direction. Unlike traders who profit from market moves, market makers profit by maintaining an efficient market.

The more liquid the market, the smaller the spread, but also the higher the volume, leading to greater overall profitability. The key challenge is managing inventory risk and maintaining sufficient liquidity to facilitate trades while minimizing exposure to price fluctuations.

For example, if a market maker quotes a stock at $100.00 bid/$100.05 ask and executes both sides of the trade, they earn $0.05 per share. While this seems insignificant, market makers operate at a massive scale, often handling millions of shares per day across thousands of securities; thus, the aggregation of these tiny profits results in meaningful daily revenue.



Exchange Rebates

Market Makers also profit from rebates offered by exchanges. Many modern trading venues operate under a maker-taker model, where liquidity providers are rewarded for placing limit orders that rest on the order book, while liquidity takers, those that submit market orders, pay a fee.

These rebates serve an important purpose: they incentivize the provision of liquidity. Exchanges want deep-order books and tight spreads, and they reward firms that help create that environment. For market makers, this means that even if a trade yields a small or break-even spread, they can still generate profit through the rebate.

For example, when a market maker makes a limited order to buy or sell a stock, they provide liquidity. When that order is filled, the exchange pays them a small rebate, as $0.002 per share.

Internalization

Another way market makers generate revenue is through internalization, a practice where they fill

client orders within their system, rather than routing to a public exchange.

This model thrives in retail brokerage networks. When a retail trader submits an order, brokers often route it to a market maker (and not an exchange), who then fills it from its own inventory or internal systems. Because these retail orders are generally small and non-informational, they represent a relatively low-risk profit opportunity. This allows the firm to:

- Avoid exchange fees
- Control execution
- Capture the full bid-ask spread

Internalization enables market makers to serve as both the counterparty and the execution venue, allowing them to more efficiently monetize the flow. However, this dual role has drawn criticism around the conflict of interest it creates, and whether brokers prioritize execution quality or payment arrangements.

Illegal Practices in Market Making

While market makers are designated to stabilize and support financial markets, their access to privileged infrastructure and order flow can also be exploited for unlawful gain. These are not grey-area behaviours or controversial tactics. They are legally defined forms of market manipulation.

In this section, we will examine three activities that fall squarely outside legal boundaries: quote stuffing, front-running, and wash trading. Each of these actions has been investigated or prosecuted by regulatory bodies such as the SEC and CFTC, due to their potential to distort markets, mislead participants, and compromise fair execution.

Quote Stuffing

Quote stuffing is an illegal high-frequency trading tactic that involves rapidly sending and cancelling large volumes of orders with no intention of execution. The goal is to overwhelm market data systems, slow down other traders' access to accurate pricing, and gain a temporary speed advantage.

In a market-making context, firms that continuously quote bid and ask prices have the infrastructure to issue thousands of updates per second. If used unethically, it can be weaponized to disrupt competitors and manipulate short-term price movements. By flooding the system with fake activity, the quote stuffing can distort the appearance of supply and demand, manipulate order books, and potentially trade ahead of slower participants.

Regulators have classified quote stuffing as a clear violation of anti-manipulation rules. Though difficult to prove in real time, forensic analysis of order activity has led to multiple enforcement actions over the past decades.

Front-Running

Front-running is the illegal practice of executing a trade based on non-public information about a pending large order that is expected to move the market. It is considered a serious violation of securities law, as it abuses privileged access to client or institutional order flow for firm-level profit.

In the context of market making, front-running can occur when a firm that internalizes orders uses its early visibility into incoming trades to place its own order first.

For example, if a broker receives an order to buy 100,000 shares of Company A, and they first buy 2,000 shares at $10, then execute the client's order – which pushes the stock to $13 – they could sell their shares for a $6,000 profit, purely by abusing their informational advantage.

Wash Trading

Wash Trading is the illegal practice of buying and selling the same security, often by the same trader or affiliated parties, to create the false appearance of market activity. These trades are executed without market risk, since they cancel each other out, purely to inflate trading volume or manipulate price perception.

In market making, wash trading may be employed to simulate liquidity in illiquid securities or to create the appearance of interest in a product. For example, a trader and a broker may rapidly trade stock XYZ to inflate activity, luring others in. Once the price rises, the original trader exits, often

profiting at the expense of those misled by the fake volume.

Wash trading violates U.S. law under the Commodity Exchange Act and is barred by the IRS from generating tax-deductible losses. Though it is less common in regulated equity markets, it remains an issue in crypto exchanges and thinly traded assets, where oversight is limited.

Flash Crash of 2010

Market makers are designed to be the steady hands of the market by quoting prices, absorbing temporary imbalances, and maintaining smooth trading flow. But on May 6, 2010, that stability cracked. In less than 10 minutes, U.S. markets experienced one of the sharpest intraday drops in history, wiping out nearly $1 trillion in value before rebounding just as quickly. The event revealed how fragile liquidity can become when those meant to provide it step aside.

What Happened?

Around 2:41 p.m., a mutual fund initiated an extensive automated sell program of 75,000 E-mini S&P 500 futures contracts, worth over $4 billion. The algorithm executed trades based solely on market volume, without regard for prices or market conditions, precisely when liquidity was already thinning due to concerns over the financial situation in Greece and the upcoming elections in the UK.

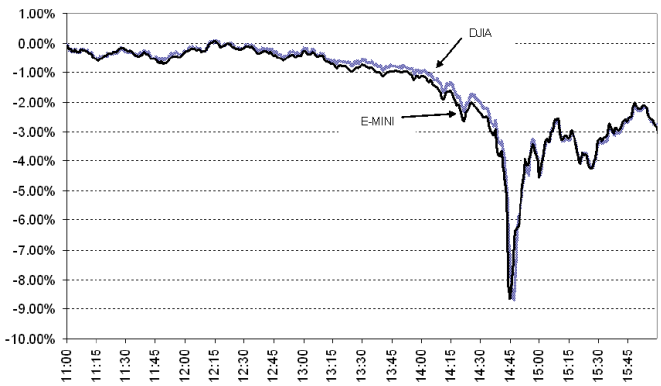
At first, market makers absorbed some of the volume, but soon began rapidly offloading the contracts to one another, creating a surge of activity with little real demand. This "hot potato" trading effect amplified the selling pressure and drove prices down sharply in both futures and equity markets. Within minutes, ETFs and blue-chip stocks, such as Procter & Gamble and Accenture, saw trades executed at extreme and irrational prices, some as low as $ 0.01, others as high as $ 100,000.

Liquidity dried up across both futures and equities, and automated systems across firms triggered pauses, creating a vacuum in market depth. By 3:00 p.m., most of the losses had reversed, but not before confidence in the structure of modern markets had shaken.

During the crash, many market makers withdrew from the market altogether. Others posted stub quotes – extreme placeholder prices far from market value – which became executable in the absence of better bids. With little to no liquidity, incoming market orders were filled at these levels, resulting in trades at penny prices or astronomical highs.

This issue wasn't just speed or automation – it was the lack of quoting obligations. Unlike traditional NYSE specialists, most modern market makers, especially HFTs, have no duty to remain in the market during volatile periods. Their decision to step back at the worst possible time turned what might have been a sharp correction into a full-blown structural failure.

Decline of E-MINI and DJIA Based on 11:00 AM Prices



(Source: SEC)

Conclusion

Market makers play a crucial role in modern financial markets. By continuously quoting prices and standing ready to trade, they provide liquidity that enables seamless execution for investors. Their role has evolved from human intermediaries on trading floors to algorithm-driven firms operating at microsecond speeds. This evolution has made markets more efficient but also more fragile. As shown in events like the Flash Crash, liquidity can vanish when the very firms relied upon to maintain it retreat from volatility. At the same time, their position at the centre of the order flow introduces unique risks for manipulation and abuse. By understanding how they work and where they sometimes fail, we gain insight into both the strengths and vulnerabilities of today's markets.

Interview with



Sofia dos Santos Nunes

/in/sofiasantosnunes/

Sofia holds a Bachelor's in Economics and a Master's in Finance from Nova SBE and completed the CEMS MIM with an exchange semester at ESADE. At Nova, she served as Head of Corporate Relations at Nova Investment Club and Co-Head of Nova Women in Business.

She began her career as a summer intern at Goldman Sachs in 2018 and progressed through various roles in trading and equities financing, ultimately becoming an Executive Director in 2024.

In 2025, after participating in Cohort 4 of the Venture Institute, Sofia joined Rypples as a Founder's Associate, supporting early-stage ocean innovation startups through investment analysis, due diligence, and strategic development.

Q1: How do you think your experience at NIC Masters has influenced your career?

It's intense to say, but it was a pivotal experience. It gave me a real-world taste of finance early on. In NIC Masters, you're split between the investment banking and the financial markets division. I was part of the financial markets division, which was extremely helpful in learning how to write about financial products, understanding market dynamics, and speaking the language of investors. All of this helped out when I was in the Goldman interviews for the Global Markets division and had to speak about markets, but also within my first year there as an analyst on the trading desk. It was valuable to get an early taste of the kind of work I'd be doing in my actual job. But more importantly, it was about the community; we all shared the same drive and mission, and in my cohort, there was no toxic competitiveness.

The London field trip was also eye-opening. I was very privileged to have the opportunity to go. At first, I thought that the people working in these big banks were so different from us; I felt I was a little person compared to them. But once you go there and meet them, you realize they're just people. It made me feel less intimidated during interviews. I still prepared hard, of course, but I also focused on building personal connections, which was crucial in my recruitment process. Many of the relationships that I created are still alive. In fact, every quarter we meet in London, those who are here. This ongoing network has been extremely valuable both personally and professionally.

Q2: Why did you decide to pursue a Master's degree, specifically in Finance and the CEMS program, and how do you think it has impacted your career choices and success?

I think in hindsight, taking a gap year might have made sense, but at the time, I was honestly scared. I had done well in my Bachelor's, and I felt pressure to keep going, find a good job, and get settled. That's why I decided to continue studying. Nova was a natural choice. It gave me a strong technical foundation in both economics and finance, which proved extremely helpful when I started working in a high-performance environment like Goldman. There, everyone was highly driven, and the degree helped me operate confidently in the capital markets.

But I also realized that I wanted exposure to people with more diverse backgrounds. While Nova is very international, it isn't as diverse as the CEMS program. CEMS brought together people from finance, management, and various backgrounds, and that diversity was truly valuable. Many of my current peers in VC, including some founders I work with, came from the CEMS program, which made building relationships much easier.

During my exchange in Barcelona, I had already secured a job, allowing me to truly enjoy the semester. Still, I took on a consulting project in Zurich, which gave me exposure to insurtech, something I could later leverage in interviews if I wanted to pursue that path.

All of these experiences helped me build a richer CV and, more importantly, gain stories and insights I could use to connect during interviews and show what sets me apart.

Looking back, I was driven by the desire to open as many doors as possible. That mindset is why I chose the Master's in Finance with CEMS. I wasn't trying to specialize early on; rather, I was trying to broaden my perspectives. So far, that mindset has served me well. But if you already know what you want to do, I'd say go for it.

Q3: Recently, you made a major shift in your career and joined Rypples, an investment firm focused on ocean impact. How did this opportunity come about? Was there a particular experience or moment that made you realize finance could be a tool for broader positive change, not just profit?

The shift was gradual, yet intentional. I've always loved the analytical side of finance, and that's probably why I pursued a Master's in Finance, transitioned into trading, and joined Goldman Sachs.

But over time, I realized I wanted to work on problems that mattered to me personally. Sometimes, I felt like I was missing a sense of purpose. Purpose means something different to everyone, but I realized I wanted to solve problems that I genuinely care about.

After careful planning and thinking it through, both financially and professionally, I decided to leave Goldman. They were super supportive, and I still have strong ties with my team there. From there, I knew I wanted something impactful, but still technical. So, impact investing became my goal.

I started applying to climate tech VC internships and analyst roles to try to break in, because it's not an easy space to enter, especially later in your career.

That's how I found Rypples. I was applying for Founder's Associate roles, essentially a "right hand to the CEO" position in a startup, and Rypples was looking for one since they had just been incorporated. Jerome, my founder, needed help setting up the firm, not just investing, but also building all the internal processes, which I never expected to be doing, but I'm really happy I applied and that things worked out.

It's a small enough place to offer real exposure. Jerome is a highly experienced founder, operator, and leader, and he was focused on ocean, something I care deeply about as a Portuguese person. Having the chance to work in this field is something I never expected, but amazingly, I can.

At Rypples, we're founder-aligned and flexible with our capital. We have more flexibility in terms of investment timelines and exits, and we're very execution-focused. The clarity around what I was going to do, how I could contribute, and the purpose of backing founders who are transforming our planet made the leap easier.

Q4: What were the key challenges and opportunities when transitioning from a structured environment like Goldman Sachs to the more dynamic and entrepreneurial world of venture capital?

I would say one of the most significant shifts was going from depth to breadth. At Goldman, I worked in a very structured environment where all the processes were clearly defined. The role was relatively narrow but with a deep scope. Whether it is emerging markets, equities financing, or synthetic products, you quickly became an expert in your area.

At Rypples, we operate more like a startup. Basically, you do whatever needs to be done. You have to get good at switching between functions, learning new topics, and adapting quickly. The ocean is vast. For example, we cover everything from blue foods to maritime shipping, decarbonization to autonomous underwater robots that map ocean terrain. These are vastly different sectors, so you are constantly shifting your focus and learning new things.

That shift was definitely a challenge. It is such a different way of working that your mindset has to evolve. At Goldman, it is more of a push mindset. You have your salary and targets, and you are driven to work harder, earn more, and succeed. At Rypples, it is more of a pull mindset. You want to find the best CEOs, the most impactful services, and products in ocean innovation, so you pull, you give more. It even changes how you behave personally because your motivation is different.

Regarding opportunities, one of the biggest was building our investment process from the ground up. That included designing our CRM, setting up systems to track and analyze different ocean sectors, and more. That kind of ownership is something you rarely get access to at a place like Goldman. Another big opportunity is getting much closer to founders and to real-world impact.

Q5: Do you and your team see any opportunities in Portugal, considering its extensive coastline and ocean area? Some interesting projects are being developed in that space. Is this something you're paying attention to?

Yes, absolutely. Portugal has a vast ocean territory, and there are increasing opportunities in this space. In fact, there are already two significant funds in Portugal that focus specifically on the ocean sector. One of them is Faber Ventures, which has a dedicated ocean fund. Both of these funds are part of the same coalition, "1000 Ocean Startups."

These funds are actively working in this area, and if we share the same conviction, there may be opportunities for co-investment in the future. While it doesn't always happen, it's a possibility.

Building connections with people in Portugal working in the same field is very important to me. Although I haven't fully explored the ecosystem yet, I really want to use my Portuguese nationality to bring capital toward the best solutions. I do believe some of them are based in Portugal.

Q6: At the beginning of your career, you traded emerging market sovereign and corporate bonds, often dealing with political and economic instability. Do you see any parallels between that kind of uncertainty and the risks when investing in early-stage companies today?

Yes, I definitely see some parallels. In both cases, you're dealing with information asymmetry, uncertainty, and the need to build conviction quickly.

In emerging markets trading, for example, you often must hold inventory because it's such an illiquid asset class. That forces you to make quick decisions, for instance, anticipating whether certain bonds, perhaps with a specific maturity or credit risk profile, might be dumped during a sell-off and become available at a discount. You must ask: Should I buy them or not? Will I be able to sell them later? Who will want them? It's about recognizing what's priced at a premium or a discount and forming a view fast.

So yes, the need to make decisions with imperfect information and under pressure is remarkably similar to that in venture capital. In VC, you meet a founder, you have a thesis, and you start building an investment case without having all the data. The key is knowing how much information is enough to move forward and recognizing when to walk away.

One important lesson I've learned is that it's better to say no than to decide out of fear of missing an opportunity. Venture capital might seem impulsive from the outside, but when you do the research, spend time with the team, and draw on pattern recognition, you can gain real confidence in your choices.

That said, there are differences. In markets, things move faster, allowing you to buy and sell with more flexibility. However, I've experienced situations where I sold something and couldn't buy it back, which is frustrating. In venture capital, once you invest, your capital is locked in. Worst case, you lose your money. However, in the best case, you can achieve a 10x or even 100x return. So ultimately, it comes down to being comfortable with the type of risk you're taking in each setting.

Q7: At Goldman Sachs, you worked extensively on optimizing funding and capital costs in equities financing. How has that technical experience shaped how you evaluate a startup's financial discipline and funding strategies?

I wouldn't say the link is entirely direct, but there are certainly parallels. At Goldman, I worked on validating the funding strategy for one of our most significant divisions — the equities business. That required taking a global view: understanding what kind of funding each equities desk needed, identifying cheaper funding sources, and assessing whether those alternatives made strategic sense.

Thinking strategically was a big part of that job, both in terms of capital efficiency and operational execution. That mindset carries over to venture investing. When I evaluate a startup now, I'm not only thinking about the technology or the solution itself, but also about the execution risk. Does the team have the proper focus? Are they raising capital for the right reasons, to build something real, or just to inflate their valuation?

I also worked closely with engineers at Goldman to build systems that allowed us to manage liquidity in real time, optimize funding, and simplify reporting. That experience gave me a strong foundation for what I do now. When I look at startups, I focus on whether they're being intentionally capital efficient, not just raising money, but using it wisely.

Additionally, I helped design all the investment and CRM processes at Rypples. Having previously built reporting and projection systems at Goldman helped me structure those processes with clarity and rigor.

So, while the connection to equities financing may be less evident than with my experience in emerging markets, the skills are definitely transferable. Finally, I'd add that working in a high-pressure environment like Goldman made me very comfortable dealing with senior stakeholders, whether that's founders, investors, or domain experts. Even now, when I'm speaking to an impressive founder doing something groundbreaking, I can confidently engage because I've had that experience before.

Q8: We noticed your involvement in the Nova Women in Business club during university, as well

as your role in the Women's Network at Goldman Sachs. As a female leader, how do you perceive the importance of these initiatives?

Nova Women in Business truly helped me become aware of how much I was holding myself back. For example, I didn't apply to NIC-UD because I thought I wasn't good enough. Not because anyone told me that, but because I had that belief internally. Becoming aware of those dynamics changed the way I showed up. Nova Women in Business was really important in helping me realize that I carried certain biases due to how I was brought up and where I came from.

I became really passionate about telling my younger colleagues, both female and male, that these biases exist and that they should be aware of them. Not because they have to act on them, but because that awareness can make you more thoughtful and respectful. That was the first step in taking back my power and feeling empowered.

At Goldman, the women's network created a space for open conversations about topics such as navigating promotions, negotiating, and building confidence in meetings. It wasn't about facing bias; I didn't feel that I was discriminated against, but it was helpful to have a space where people shared similar challenges. Those conversations gave me mentorship and support in a way that felt very organic.

In my early career, I second-guessed myself more than I should have. Looking back, I wish I had asked for help more often and not been afraid to show some vulnerability.

My advice now is to just go for it. I know it sounds cliché, but it's true. The worst that can happen is getting a no, but at least you tried. Now I try to show up with confidence, and most of the time, it works. I also try to help others do the same.

These two experiences helped me become more thoughtful and more aware of the challenges women face, and also the challenges faced by others. That also got me where I am today.

Q9: Based on your experience at the Venture Institute and Rypples, what skills or mindsets do you believe are most critical for young professionals aspiring to succeed in venture capital today?

I would say curiosity is number one. As I said, you need to go deep into topics you've never heard of and make sense of them quickly. That applies whether you're building an investment thesis or evaluating a founder. The key is to stay curious and ask: Why did they do what they did? Why did they decide to start this business? And so on.

However, I would also add humility and adaptability. You're not there to sound smart, you're there to support founders and make decisions that are aligned with the long term. As such, being curious and humble is very important. If you come across as a "know-it-all", founders won't like you. You need to listen more than speak, ask better questions, and be open to learning.

Additionally, the ability to build is a valuable skill, whether it's an internal tool or a sector deep dive, it's crucial in an agile team like Rypples.

Finally, I would like to highlight the importance of networking. Sometimes opportunities come from unexpected connections. For instance, someone I met during my exchange semester in Hong Kong in my Bachelor's ended up playing a crucial role in opening a recent professional opportunity.

To sum up, the key skills are curiosity, humility, adaptability, the ability to build, and networking.

Q10: Looking back on your career, how did your curiosity, networking, and mindset contribute to the level you are today? And if you could offer one piece of advice to your younger self, what would it be?

Looking back, the traits that I believe have shaped my journey most are curiosity and a strong drive to grow. But I'll be honest: when it comes to networking, you must be intentional. It doesn't just happen. You need to own it, actively put yourself out there, and build relationships with purpose. In my case, some things happened organically, but I've learned that without deliberate effort, it doesn't go very far.

One of the biggest lessons for me has been to bet on myself, even in moments of fear and uncertainty. Leaving Goldman was a huge leap, but once I made that decision, things began aligning. It has been a learning curve to stop fearing failure, especially coming from environments like Nova or Goldman, where you're conditioned to believe that you must be the best and the best never fail. But the truth is, the biggest growth moments came when I leaned into the unknown.

I also can't overstate the importance of surrounding yourself with the right people and trusting your

intuition. That's one of the main pieces of advice I would give to my younger self: don't wait for clarity to act. Most of the time, you won't have it, and when you finally do, it might be too late. There were times I held back and later regretted it, thinking, "I should've just gone for it."

Try things early. Trust that you'll figure it out, and when something doesn't feel right, take the time to reflect and ask yourself, "What do I actually want?" - not just, "What's the next big opportunity?" If I had done that, I might have moved into private markets earlier, and maybe the transition would have been easier.

Lastly, although we're often trained in markets to be purely rational, I've learned that intuition often reflects subconscious knowledge. When something feels off, pay attention to it. It's often trying to tell you something important.



Afonso Freitas



Francisco Borges



Raquel Mendes

Message from the Co-presidents.

Dear reader,

I hope this message finds you in good spirits. As we close another chapter at NIC-UD, I'd like to begin by recognizing the remarkable effort of everyone who contributed to this edition of NUR. Your hard work, creativity, and passion have once again transformed ideas into a thoughtful and dynamic publication that continues to build on tradition while innovating.

With the academic year coming to a close, this also marks the conclusion of my time as Co-President. Looking back, I'm filled with gratitude for the journey we've shared. NIC-UD has been an environment not only for learning and collaborating, but also a pivotal part of my personal and professional development over these past three years. I am truly thankful to have had the chance to work alongside such a committed team, and I hope the content we've delivered has served our readers well.

As the baton passes, I want to extend my heartfelt support to the incoming leadership. I'm confident that Afonso Freitas and Afonso Monteiro will carry forward the club's vision with purpose and fresh energy. I wish them every success in this new chapter and look forward to seeing where their leadership will take NIC-UD next.

Warm regards,

Rafael Mora

Co-President NIC-UD



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