MASTER IN BUSINESS ADMINISTRATION

The Union of E-commerce and Financial Services Revolutionizing Trade and Risk Management

Examined by the example of Amazon and Atradius

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Abstract

DISCLAIMER
The study is conducted in collaboration with Atradius, a leading credit insurer seeking to partner with Amazon. Relevant data and information are gathered through expert interviews and databases.

This dissertation delves into examining the potential outcomes that emerge from the collaboration between financial services and e-commerce ecosystems in the rapidly expanding business-to-business (B2B) e-commerce market. Through conducting a comprehensive case study analysis of the collaboration between two industry leaders, Amazon and Atradius, this research provides valuable insights into the transformative effects that such partnerships can deliver.

In the current market, significant opportunities exist; however, capturing these opportunities presents challenges, notably the need to minimize risks while simultaneously providing additional financing. Partnerships between e-commerce and financial services companies have become increasingly critical in navigating this complex landscape. Thus, this study recognizes the importance of exploring the potential benefits and implications of these collaborations in addressing the multifaceted needs of the B2B e-commerce market.

The attractiveness of the partnership is examined through improved funding support for Amazon via the strong relationship between credit insurers and banks. Moreover, Atradius can leverage easy access to the platform and mitigate high distribution costs. The partnership can also reduce risks through insurance solutions and data sharing between the two companies, leading to improved risk management for Amazon and Atradius.

The study provides evidence of the significant synergies between e-commerce and financial services. This integration enables companies to mitigate risks and enhance growth, strengthening the competitiveness of both sectors. Furthermore, it sheds light on the implications of this integration for companies dedicated to B2B e-commerce, highlighting how it can enable and promote their growth in an increasingly complex business environment.

Keywords: E-commerce, B2B trade, Financial Services, Credit Insurance, Amazon, Atradius

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Glossary of terms

Trade finance gap: The trade finance gap denotes the difference between the demand for trade finance and the availability of financing options for international trade transactions. It represents the unmet financial requirements of businesses engaged in cross-border trade.

Default rate: The percentage of debtors who fail to make timely payments or fulfill their financial obligations, resulting in a default on their loans or debts. It generally indicates credit risk or the likelihood of borrowers defaulting on their obligations.

Probability of default: The probability of default (PD) is a statistical measure that evaluates the likelihood or probability of a borrower or debtor defaulting on their financial obligations within a specific time frame. It is frequently expressed as a percentage and employed in credit risk analysis and scoring models.

Loss-given default: Loss-given default (LGD) is a measure that quantifies the potential loss incurred by a creditor if a debtor defaults on their debt. It represents the percentage of the outstanding balance or the total exposure the lender will likely lose in the event of default, considering any collateral or recovery efforts.

Counterparty risk: The risk that one party in a financial transaction or contract defaults on its obligations, leading to financial losses for the other party. It arises from the uncertainty surrounding the ability or willingness of a counterparty to fulfill its contractual obligations, such as making payments or delivering goods or services.

Application Programming Interface (API): A set of protocols, tools, and definitions that enable different software applications to communicate and interact with each other. APIs define the methods and rules for how software components should interact, allowing developers to access and utilize functionalities and data from other applications or systems.

Customer/Policyholder: In the context of credit insurance, the term "customer" or "policyholder" refers to the party that holds a direct contractual agreement with the credit insurance company. This party is the beneficiary of the credit insurance policy and is typically the entity seeking protection against potential non-payment or default by their buyers.

Buyer: In the context of credit insurance, the term "buyer" refers to the party that purchases products or services from the customer or policyholder. The buyer is the counterparty to the customer/policyholder in a trade. It represents the debtor or obligor whose payment obligations are insured by the credit insurance policy.

Platform as a service (PaaS): Outsourcing a service platform, commonly a cloud service. Outsourcing the service platform brings advantages from the software development perspective and business operations.

Software as a service (SaaS): Software distribution model in which the service provider maintains application software on their servers and provides the service to customers over the internet.

Discretionary Credit Limit (DCL): The amount up to which a policyholder may set a credit limit themselves on their buyers based on criteria defined in the credit insurance policy, such as previous payment experience, reliable credit reports, or credit management procedures.

1. INTRODUCTION

The rapidly expanding e-commerce landscape, primarily focused on B2C transactions, is now making concentrated efforts to establish its presence in the evolving B2B market. With the latest advancements in the B2B sector, e-commerce platforms have tremendous opportunities for growth. However, despite this potential, market penetration has been challenging. To overcome these obstacles, financial service companies such as credit insurers and banks could be crucial links for e-commerce platforms.

By partnering with such institutions, e-commerce platforms can overcome the tight regulatory hurdle of financial institutions. Promote financing for sellers on the platform, improve risk management, and generate sustainable growth. Moreover, this alliance can be a win-win situation for both parties as they gain leverage on each other's diverse business models, data information, and clientele. The example of Amazon and Atradius will study the union of e-commerce platforms and financial services, as both are substantial players in their respective industries and will provide a solid understanding of the union's prospects.

Globally the B2B e-commerce market is estimated to expand at a compound annual growth rate (CAGR) of 20,2% from 2023 to 2030 (Grandview Research, 2022). Amazon US B2B sales in 2021 accounted for $28 billion representing a growth of 56% in the last six years. Moreover, sales are forecasted to hit $56 billion in 2025 (Pwc, 2022). Despite the immense growth, Amazon only accounts for a market share of 1,7% of US B2B e-commerce. To tackle the current challenges and catch up to the accelerating growth, the company is making an effort to enter financial services through partnerships. The trade finance gap stands at a staggering $1,7 trillion (ABD, 2021). This significant gap raises the question of whether a strategic partnership with financial services can effectively reduce this deficit and contribute to Amazon's growth.

The credit insurance industry is an oligopoly with three leading players: Allianz, Atradius, and Coface. Financial services are heavily regulated institutions that enjoy a global scope of information regarding companies' financial performance and possess excellent underwriting experience. Credit insurers play a crucial role in the modern business landscape by offering protection against non-payment and insolvency risks, enabling businesses to expand their trade, and promoting economic growth. Amazon requires the underwriting expertise of a financial institution to overcome its challenges. Still, the significant regulatory barriers associated with entering the credit insurance market dissuade it from pursuing such a venture on its own.

Amazon and Atradius aim to expand their business into new market segments. While Amazon primarily serves small and medium-sized enterprises (SMEs), Atradius focuses on larger enterprises. Both companies are looking to enter each other's respective client bases to broaden their reach. However, they face distinct challenges in penetrating new clientele. Atradius's main hurdle is the lack of information, which limits its underwriting capabilities, while Amazon's problem is an absence of financial support, insurance solutions, and enterprise familiarity. A partnership between the two companies could create a mutually beneficial solution, allowing them to capitalize on each other's strengths to overcome challenges and expand their reach.

The potential benefits are also worth exploring regarding funding support and risk management. Credit insurers can access various payment behavior and credit rating data, complementing Amazon's trading and payment data. This combination of data could provide essential insights and improve risk management capabilities for both parties. Additionally, Atradius's tight connections with global banks could provide funding support to Amazon and increase the availability of funding options. Furthermore, credit insurers offer non-payment risk coverage solutions that could help protect Amazon's financial exposure to potential payment defaults.

1.1 Objectives and Methodology

This dissertation investigates the potential opportunities presented by the collaboration between Amazon and financial service providers, particularly credit insurers like Atradius. The research objectives are to examine the current state of both industries, evaluate their respective challenges, and derive a comprehensive understanding of the potential advantages of these partnerships for both parties and the potential impact on B2B digital commerce.

The first objective is to analyze Amazon's business model, growth, and prospects for B2B trade. Describing the company's penetration in different markets by geographics and industry segments as well as their underlying future trends. Identifying the current partnerships with financial services and the offered payment methods. As well as understanding the challenges of the company and the aspects that may raise difficulties in the future.

The second objective is related to financial services, banks, and credit insurers and seeks to understand their role in the B2B trade. Recognizing their extensive functions on a global level and identifying their range of information. Analyzing credit insurers' business models, their catering for diverse B2B clients, and their extensive activities in risk management. Moreover, studying their future goals for growth and the challenges at present. Also, chapter 3.3 will provide a closer look at Atradius's business, financials, and its function in trade finance.

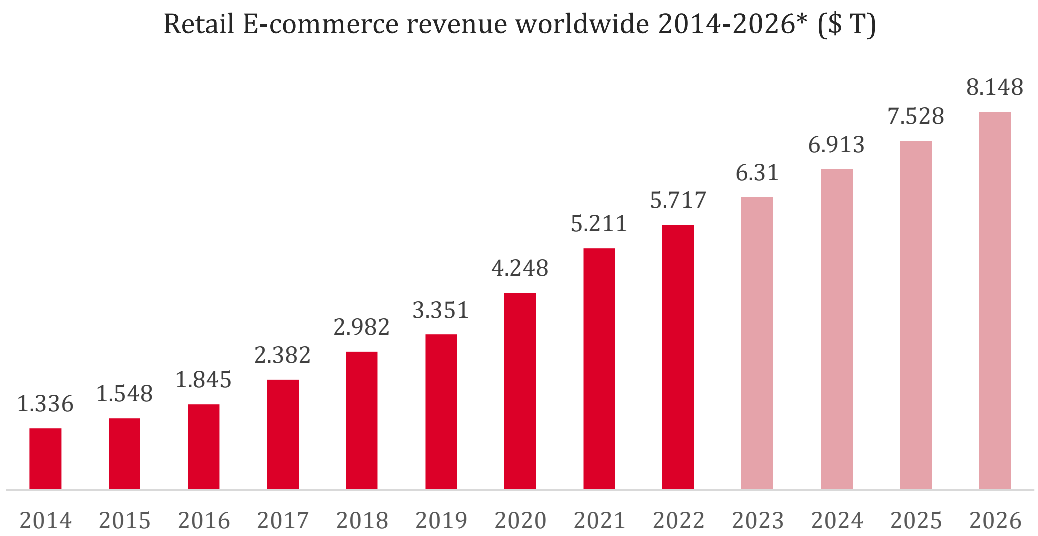
Thirdly, studying the impacts and synergies derived from a potential collaboration between both parties' businesses focusing on topics such as funding support, risk mitigation, new businesses, and data sharing. In short, gaining an understanding of the win-win situation that their partnership would create.

This dissertation is carried out with Atradius, a global credit insurance company seeking to enter the e-commerce ecosystem of Amazon. An exhaustive literature review of the parties will be carried out to study the objectives mentioned above. Additionally, a qualitative study in the form of expert interviews will provide a deeper look into the current challenges and the ramifications on the union. The professionals interviewed are experts in diverse areas, such as credit insurance, credit risk management, and trade finance.

2. E-COMMERCE ECOSYSTEM

E-commerce has revolutionized business in only twenty years. The revolution is primarily a result of the development of the Internet, new software, and constantly evolving technologies. The expansion began, with companies intending to reach a more extensive customer base without occurring location expenses. Amazon was among the first companies to use new technologies and business models. The company was created in 1994 with an initial value proposition of an online bookstore with a wider variety of books than a traditional store. Since then, Amazon has established itself as one of the most valuable companies worldwide. It is hardly surprising that e-commerce has evolved from small-scale marketplaces to a trillion-dollar industry as it offers clients convenience, diversified product offerings, and an advanced ability to compare. Companies must reach clients worldwide, empowering them to benefit from higher profitability. In 2022, e-commerce revenue worldwide accounted for more than $5 trillion; conforming to estimates, the growth is endless (Statista, 2022).

Figure 1 Global Retail E-commerce Revenue



Source: Own Elaboration (2023); Statista (2022)

This chapter will discuss two business relationships in the e-commerce sphere: business-to-consumer (B2C) and business-to-business (B2B). Business to consumer refers to companies selling products or services to the end consumer without intermediary parties. Generally, the purchase consists of finalized goods. Whereas, in a business-to-business model, companies sell products to other companies to use for manufacturing purposes, wholesale, or retail. Traditionally, the latter has a more significant size volume since the buyers constitute producers, resellers, governments, and institutions rather than private consumers. Additionally, the business relationship focus differs; in B2B, it is fundamental to develop a solid relationship with the buyer; in B2C, on the other hand, it is more essential to accomplish a stable customer base (Wallstreetmojo, 2023).

The two business relationships have been tremendously growing, and companies continue to invest more and more into improving their digital channels. According to Statista, in 2023, 17% of sales in B2B will be generated through e-commerce channels. In 2022 the global market size for B2B e-commerce was estimated to be US$ 7,9 billion (Grandview research, n.d), while the B2C market was valued at a substantial US$ 4,4 trillion (Imarc Group, n.d). The expected compound annual growth rate (CAGR) for the two relationships deviates, as the expected CAGR for 2021-2028 in B2C is 9,7%, and for B2B, this is 18,7% (Grandview research, 2021; Business Wire, 2021).

Platform e-commerce business models are becoming increasingly valuable in today's business world as they generate value by facilitating interactions between buyers and sellers. The companies are not independent of producing products and services but rather function as intermediaries. The nature of the business determines the length and intensity of the interaction. When discussing e-commerce and trade, we can identify two types of interactions. Short-term interactions consist of connecting a buyer and a seller, and longer term, where a relationship has been formed between the two. It is considered that in B2C, the relationship nature can be shorter than in a B2B relation. The governance structure and a set of standards and protocols provided by the platforms are critical since they foster platform business expansion.

One of the essential components of a successful platform business model is the ability to establish ecosystems (Sengupta & HV, 2019). E-commerce ecosystems are integrated structures facilitating the connection between buyers, sellers, and service suppliers in an online market. Thriving ecosystems include platforms such as PaaS, SaaS, and on-premises media. Numerous marketing tools allow promotion and recommendations as well as enhance traffic to the website. A variety of payment systems provide flexibility and security to consumers. Often the systems are integrated seamlessly and are therefore invisible to the user. Additionally, logistics, communication, and productivity tools are often seen in thriving e-commerce ecosystems (Pesotska, 2022).

Amazon is one of the most successful companies in building ecosystems. The ecosystem comprises basic services, commercial services, products, content delivery, and sales channels. In 2023 Amazon was the most valuable brand worldwide (Brand Finance, 2023), and the company continues to introduce new products and services, expand, and amplify its business model constantly. Its business areas include e-commerce, retailing, cloud services, kindle, and Prime. In the United States, Amazon has the largest market share of 37,8% in B2C e-commerce, also retailing counts, with a significant market share of 10,4% (Mileva, 2022). Currently, Amazon serves 310 million active users and counts 1.9 million active sellers (Mileva, 2022). Amazon is available in more than 100 countries and regions. Market capitalization in January 2021 was $1,043 trillion, and annualized net sales counted for $469,82 billion.

The company was founded by Jeff Bezos in 1994 in Seattle, United States. He was the CEO until July 2021, when he stepped down and became an executive chairman. The current President and CEO of the company is Andrew R. Jassy. Before this role, he was the Head of Amazon Web Services (AWS) and, with Bezos, developed the idea of cloud computing services (Haselton, 2021).

Table 1 Amazon Key Figures

President & Chief Executive	Andrew R. Jassy
Launch	1994
Origin	Seattle, US
Areas of involvement	E-commerce, cloud services, kindle, prime, retailing
Number of employees (2022 Sep.)	1,544,000
Active Customers	310 M
Active Sellers	1,9 M
Market Capitalization (January 2023)	$1,043 T
Annualized Net sales	$469,82 B

Source: Own elaboration (2023); Curry (2023).

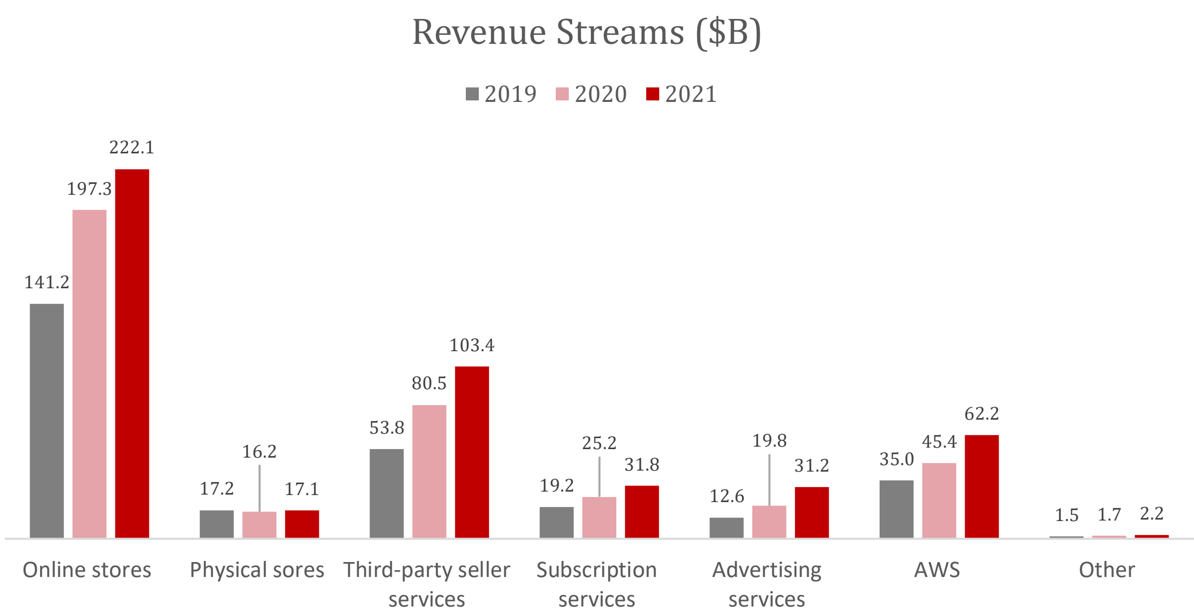
Amazon's share value and sales soared during the pandemic due to the extensive lockdowns worldwide. However, in 2022 multiple factors caused Amazon’s share value to drop. Most significantly, the e-commerce business saw a negative impact from the reopening of the economy. For Amazon, in one month, from the end of March to the end of April, the share value decreased by 24%. This resulted in the weakest performance for Amazon since 2006. The company is encountering various challenges, firstly generated by inflation and increased external costs like higher wages and fuel prices. Secondly, the internal pressure of reduced worker productivity since, during the pandemic, the company had to answer to the growing demand by increasing the number of workers and is now suffering from overstaffing. Lastly, there is a cost pressure in operating expenses originating from the expanded logistic footprint and higher fixed costs (Min, 2022).

2.1 Business models

Amazon has one of the most complex business models due to the integration of an incredible array of diverse businesses into one. Despite beginning its operations with a simple value proposition of an online bookstore, it has developed into one of the highest-valued companies worldwide.

The online marketplace continues to be the primary source of revenue and the source with the most notable growth. In 2021, the net sales of online stores amounted to $222,075 billion. These revenues correspond to the sales made on Amazon's website. Third-party seller services consist of commissions and shipping fees and are the second most significant source of income. Amazon Web Service (AWS) includes cloud-based services and shows considerable growth of 77,87% from 2019 to 2021. Amazon Prime, a subscription model, also has a crucial role not only in forms of revenue but in enhancing customer loyalty. Physical stores include Whole Foods Market, Amazon Books, Amazon 4-star, Amazon Go, and Amazon pop-up stores (Expert interview, 2023). Other revenues are obtained through advertisement and co-branded credit cards comprising a $2 billion industry. These different revenue streams, according to years, are illustrated in Figure 2.

Figure 2 Amazon Revenue Streams (2019-2021 in $B)



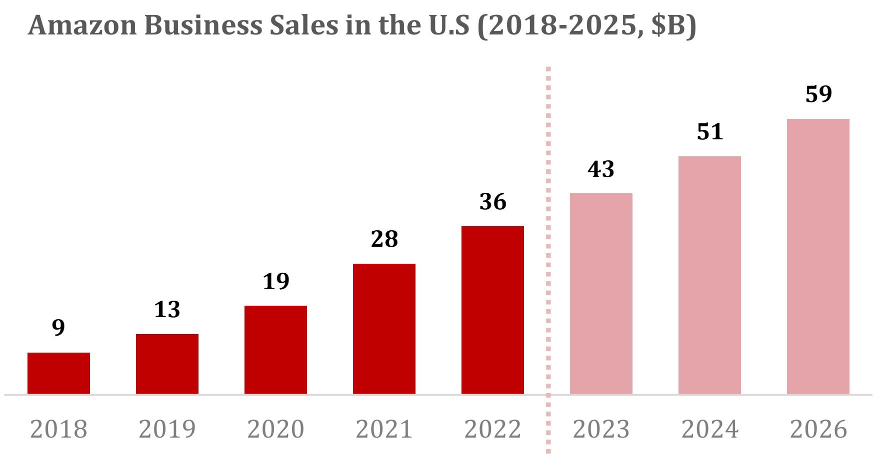
Source: Own Elaboration (2023); Coppola (2023)

Amazon Business operates in eight countries: India, The United States, Germany, The United Kingdom, Japan, France, Italy, and Spain. The business model counts 9,7 million sellers, with an average of 1 million new sellers entering annually. The great majority sell five or fewer products, and most products with low prices ranging between $11-$25. The top product categories were home & kitchen, beauty & personal care, clothing, shoes & jewelry, toys and games, health, and household & baby care (Connolly, 2023). On the other hand, Amazon counts with more than five million customers and more than 80 customers on the Fortune 100. Additionally, 90% of the most populous local governments and 92% of the largest hospital systems are customers of Amazon in the United States (Expert Interview, 2023).

Amazon Business is a platform created for B2B e-commerce that authorizes companies to sell their products, access a great range of buyers, and, conversely, discover suppliers. The platform offers firms discounts and benefits such as automatic VAT invoicing, business pricing, quantity discounts, and invoice payments (Williams, 2020). Moreover, companies can subscribe to a premium “prime” service with free shipping, additional discounts, and member-only offers. The platform for B2B was launched in 2015 in The United States and further expanded year after year to new territories, in 2016 to Germany and UK, in 2017 to Japan and India, in 2018 to Italy, Spain, and France, and in 2019 to Canada. Growth of the platform has been fast since 2016; the reported sales reached $1 billion, and only five years later, in 2021, the sales hit $30 billion worldwide. In 2022, India was the fastest-growing marketplace.

In 2021, business sales amounted to $28 billion in the US and were expected to grow by 18% by 2025 (See Figure 3). In the same year, B2B e-commerce sales amounted to $1,63 billion, representing a growth of 17% from 2020, when sales amounted to $1,39 trillion. According to estimates, B2B e-commerce will develop exponentially and reach $20,9 trillion globally by 2027. However, even though the growth is notable, Amazon's B2B e-commerce platforms' market share continues to be minimal; in 2021, 1,7%.

Figure 3 Amazon US Business Sales



Source: Own elaboration (2023); Coppola (2023)

Amazon's business consists of two different classifications of sellers (see Figure 4). Firstly, the "vendors" sell products in bulk to Amazon, and from there onwards, Amazon acts as a product seller to an organization. This selling method offers the vendor benefits such as lower fees and access to marketing tools. However, the payment timeline is significantly prolonged, and the vendor lacks control over the selling price. Secondly, the "sellers" that sell products directly to the buyers use Amazon solely as a marketplace that connects the seller and the buyer. In this case, the buyer is a private consumer, not part of the Amazon Business. The seller benefits from having control over pricing and stock and the ability to offer a greater variety of products. Payment is also received in a shorter time, in only seven days. Conversely, the seller has disadvantages to the first-party relationship, such as a lack of marketing and inventory management. Moreover, important to note that both types of merchants can sell to private customers and companies.

Figure 4 Amazon Business Overview B2B and B2C

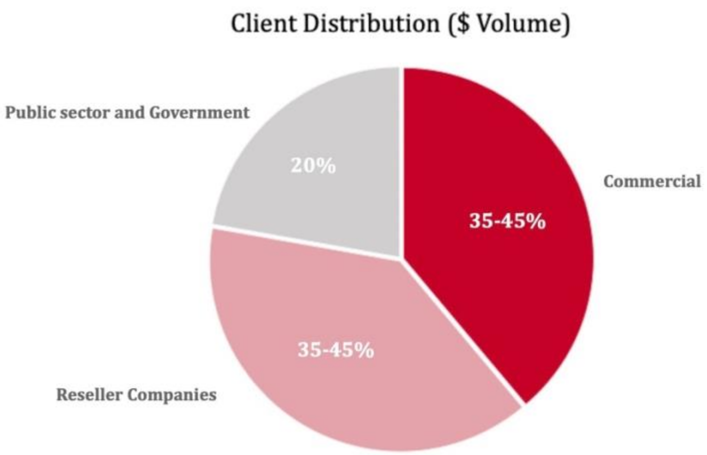
Source: Expert interview Atradius (2023)

Amazon has positioned itself to have an integral part in the vast majority of operations and seeks to support all stakeholders. The company proposes to reduce complexity for the stakeholders, accentuate customer-centricity, enable sellers and buyers to maximize sales and purchases and ensure trust by all parties. Sellers can benefit from buyer purchasing data insights and diverse options to simplify product delivery through fulfillment products. Several risk mitigations are offered to sellers, such as bad debt cover, meaning that Amazon will cover the payment if the buyer fails. Moreover, they can apply for diverse insurances like general commercial liability, excess liability insurance, umbrella liability insurance, amazon suspension insurance, and shipping and cargo insurance (Expert interview, 2023).

To continue, Amazon collects and analyzes data to manage fraud activities and risks. Separate legal entities are formed to fulfill payment depending on the payment structure. Consumer benefits are seen through credit card and line offering to business members and customer protection through an A-z guarantee that ensures timely delivery and product condition.

The client distribution based on volume consists of commercial clients (35-45%), reseller companies (35-45%, and the public sector and government (20%) (See Figure 5). Commercial clients use Amazon mainly for office supplies. These clients are significant in size and have a large spending volume. Reseller companies benefit from Amazon as a supplier to their business sales and similarly consist of large clients but with a lower spending volume. Lastly, the public sector and government constitute a small client base but have high monetary spending (Expert Interview, 2023).

Figure 5 Client Distribution in the US ($ Volume)



Source: Own elaboration, Expert interview (2023).

The products are composed of mainly two categories, electronics (45%) and office supplies (35%). Electronics are more expensive and therefore have a lower volume in quantity and a longer buying cycle. Office supplies consist of products such as printing supplies, papers, and pens. These products are less costly and have shorter buying cycles, purchased monthly with a high volume.

2.2 Financial services in e-commerce

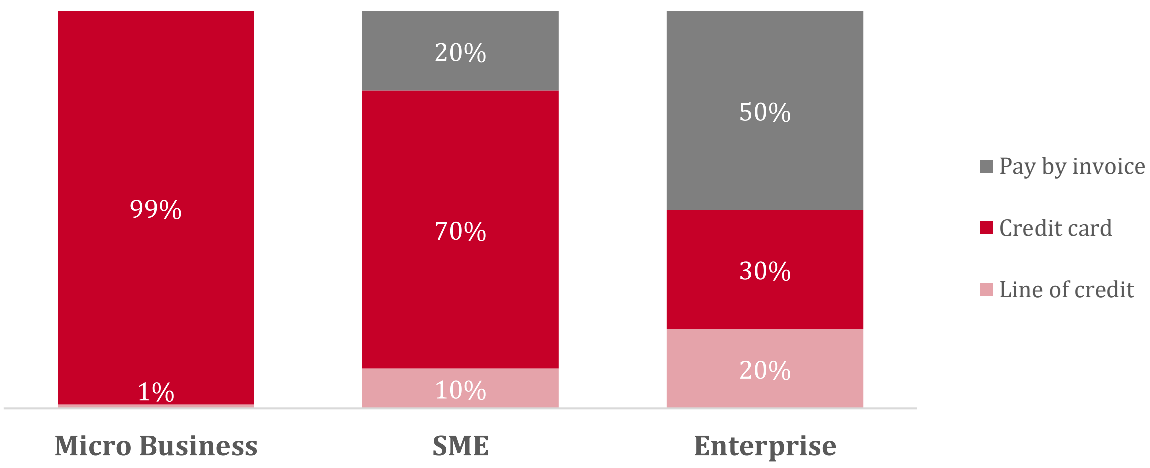
Amazon's financial services ecosystem comprises banks, insurance, and credit card firms. The company is heavily entering the financial sectors to increase the number of merchants and customers and minimize transaction friction (Cbinsights, 2022). For instance, Amazon offers sellers and vendors loans to promote their investment and ensure capital, and also early payment options or discounts on invoicing. SME companies can benefit from Amazon lending or selecting financial partners if they possess a membership with Amazon Business. Early payment options allow sellers to improve their working capital conditions through significantly faster payment terms, including up to 80% payment the next day. Lastly, discounts on invoicing permit sellers to get cash in advance with a 1,5% fee of invoice cost.

To continue, buyers are offered different payment methods, such as lines of credit, business credit cards, and payments by invoice. Credit lines are offered for Amazon Business and Amazon website purchases through Synchrony Bank. Credit cards are provided with American Express cards, with varying spending limits depending on Amazon membership. As prime users, buyers benefit from a 5% payback and 90-day terms for the first $120,000 spent. Payments by invoice are exclusively available for B2B transactions, provided payment is made within 30 days. This payment method incentivizes buyers to purchase in larger quantities while giving sellers a sense of payment security. However, using invoices for payment can pose challenges, especially if the seller is experiencing cash flow problems due to the extended payment terms.

Payment-related risks differ depending on the method used. For instance, in lines of credit, the risk is borne by Synchrony Bank, whereas in credit card payments, American Express assumes the risk. Amazon, however, only assumes the risk in payments made through invoices. As a result, there is an opportunity for Amazon to partner with a credit insurer to mitigate this risk.

In the B2B sector in the United States, payment methods vary based on the company's annual revenue. Dividing them, we can establish three sizes of companies: Micro businesses with a yearly income of less than $5M, SMEs with $5-250M, and enterprises higher than $250M. Figure 6 illustrates the comparison of payment methods by company size. Microbusinesses pay 99% by credit card payments and 1% with a line of credit. SMEs pay 20% by invoice, 70% by credit card, and 10% by line of credit. Enterprises' payment methods vary more as they pay 50% by invoice, 30% by credit card, and 20% by line of credit (Expert Interview, 2023). The payment methods are closely tied to revenues, leading to apparent differences among companies. As companies grow in size, their reliance on credit card payments diminishes while the use of pay-by-invoice and lines of credit increases in tandem with their revenue. Pay by invoice as a payment option is primarily offered to larger enterprises since Amazon assumes the risk of non-payment and prefers to offer this option to financially stable companies. However, the enterprise segment currently relies on lines of credit and payments by invoice, which make up 70% of all transactions. For lines of credit, Amazon partnered with banks like Synchrony. However, for payment by invoice, there is an opportunity for collaboration with credit insurers to provide Amazon protection against the risk of non-payment by this segment of buyers.

Figure 6 Payment Methods by Size



Source: Own elaboration, Expert interview (2023)

Amazon has offered lending to SME companies since 2012 in the USA, UK, Germany, Canada, India, Italy, and Spain. In 2018 Amazon partnered with Bank of America to increase lending opportunities. The loans may be up to $750,000 with interest rates ranging from 6 to 17% and with the condition that it is used solely for revenue generation. Eligibility depends on seller maturity and health, which is based on customer satisfaction. Amazon strictly defines this as the loans being provided solely through an invitation.

Moreover, Amazon requires activity for a minimum of one year, sales that amount to more than $10,000 in the last year, and more than three sales in the previous month. Due to these criteria, new merchants need help accessing loans. The loan repayment process is automated, implying that Amazon collects a fixed percentage of monthly sales.

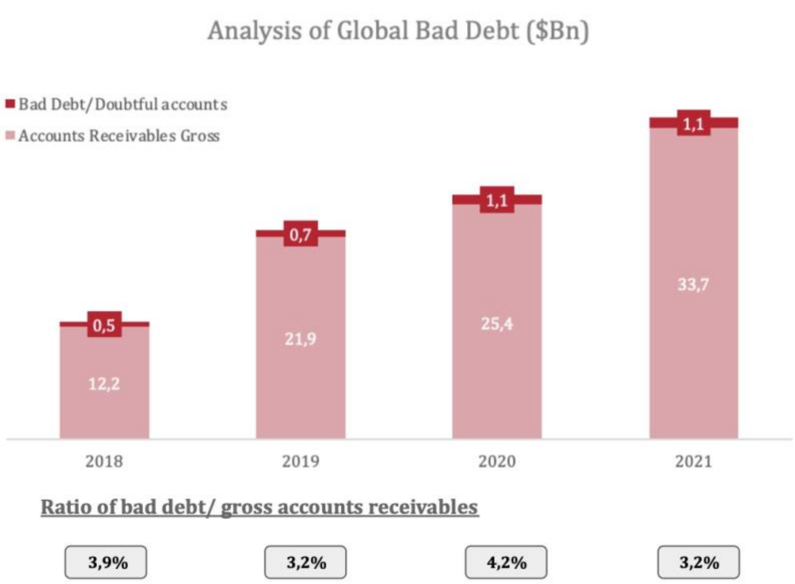
Amazon has several third-party relationships to enable lending to sellers. In 2019 they partnered with Marcus by Goldman Sachs to offer credit lines higher than $1 million. This partnership was concluded with the condition that Goldman Sachs could use customer data (CB Insights, 2021). Also, in 2021, a partnership with Lendistry supports businesses in unserved communities by offering loans up to $100,000 with a repayment period of two years (Lendistry, 2022).

2.3 Challenges for Amazon

Amazon's Business growth to enterprises is an essential priority for the company. When the platform was launched, SME company's sales volume amounted to 70% and enterprises to only 30%. At present, the share is equal between the two. However, Amazon continuously seeks to attract more enterprises, expecting enterprises to amount to 60% and SMEs for 40% of the sales volume. The company engages enterprises and SME companies through merchant acquisition teams that count 300 people in the United States and 100 people in the United Kingdom and Germany (Expert interview, 2023). A significant focus is predominantly on education and public sector enterprises since they are safe industries with regular and consistent purchasing cycles.

To continue, one of the most notable challenges for Amazon arises from bad debt (See Figure 7), for which the primary source has been fraud risk. Also, credit risk produces a risk of bad debt. In 2021 bad debt and doubtful accounts counted for $1,1 billion out of the total of $34,8 billion. Fraud risk has been growing in complexity and includes actions such as copyright infringements, counterfeit products, account takeovers, and traditional fraud patterns such as merchants pretending to sell products. To answer the problem, the company has been introducing management methods to reduce fraud risk. In 2020 Amazon invested more than $700 million to identify potential frauds globally and is actively developing algorithms and AI tools to identify fraudulent patterns.

Figure 7 Analysis of Global Bad Debt 2018-2021 ($B)



Source: Own elaboration, Expert interview (2023).

The main drivers of credit risk are lines of credit to sellers and buyers, payments by invoice, and credit for internal Amazon services offered to sellers in advertising and fulfillment support. To respond to the risk, Amazon is developing and using internal tools that allow the evaluation of merchants' credit history. Besides this, the company can protect itself with its ample liquidity, keeping the risk on its balance sheet.

The risk distribution is 70-80% credit risk and 20-30% fraud risk (Expert interview, 2023). In B2B transactions, the fraud risk is less significant due to more information required from the merchant in business registration, reducing the probability of fraudulent activity. Also, businesses must acquire a higher maturity level to qualify for financial service offerings. On the other hand, in B2C transactions, the credit risk is notably higher due to the high share of lines of credit and payments by invoice.

The procedure for failed payments in credit risk is as follows: in the first stage, after 30 days, the case is sent to collection agents, and after 120 days, the credit is written off by Amazon. A global threshold of non-paid amounts defines the response to non-payments; in amounts below 200,000, no legal action is taken, and in higher quantities, legal action is taken; however, 80% of cases were due to bankruptcy, and therefore Amazon recognizes it on their balance sheet. If fraud risk materializes, Amazon writes the loss off immediately without passing it to collection agents. Credit risk and fraud risks that raise the issue of bad debt are significant challenges for Amazon that are currently under control due to the ample liquidity of the company. As we will discover in Chapter 4, partnering with a credit insurer presents an opportunity to mitigate credit risk and prevent fraud.

3. FINANCIAL SERVICES IN TRADE

Credit insurance companies and commercial banks are essential in facilitating trade and providing monetary support to businesses. Most companies rely on financial instruments such as bank credits to manage cash flow and credit insurance to mitigate risks in trading transactions. This chapter examines the roles of banks and credit insurance institutions in trade, including their financial and risk management functions. The chapter also provides an in-depth analysis of credit insurance operations and contracts and a detailed presentation of Atradius, a leading global credit insurer.

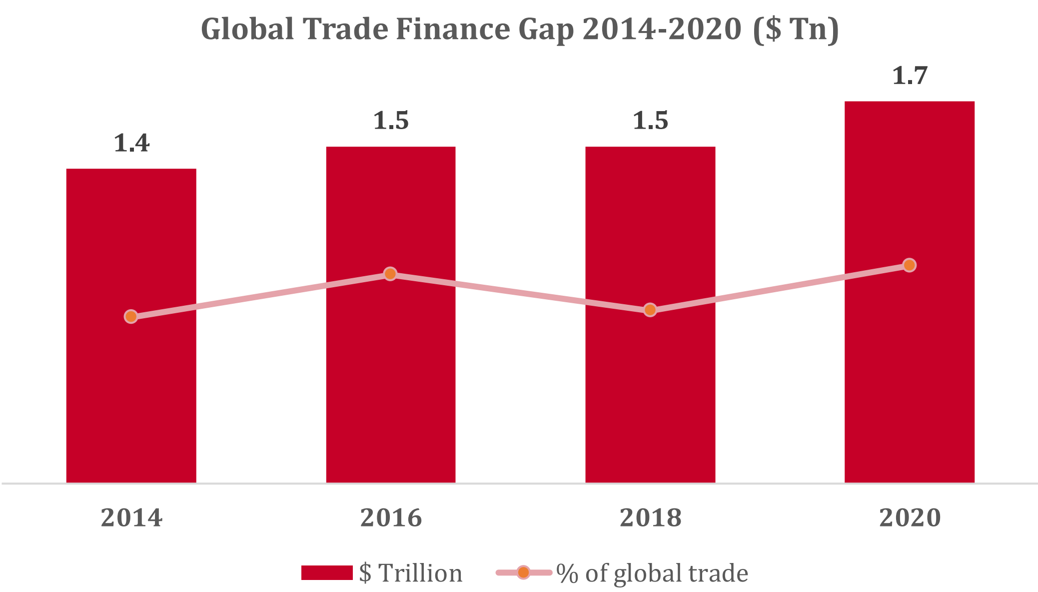
One of the most significant hurdles in trade is the widening trade finance gap, disproportionately affecting SMEs. This is particularly concerning for Amazon, as their B2B customer base consists mainly of SME companies. According to Asian Development Bank, the trade finance gap reached $1,7 trillion in 2020, representing 9,7% of global trade, and has increased by 15% from 2018, as illustrated in Figure 8 (ADB, 2021). The extensively documented shortage of bank-mediated financing remains a significant contributing factor (World Trade Board & Bankers Association for Finance and Trade [BAFT], 2023). SMEs are impacted mainly by financial scarcity because they make up 40% of banks rejected trade finance applications, while multinational corporations have a notably lower rejection rate of 19% (Kim et al., 2021). This is likely due to their higher adaptation to digital technologies that improve supply-chain efficiency and transparency, allowing the creation of digital networks supporting trade and finance. However, SMEs need help to take advantage of such opportunities due to their limited size and lack of integration.

Additionally, even though trade finance continued to be available, companies' weaker balance sheets and macroeconomic uncertainty have heightened banks' perceptions of increasing default risk, leading to higher rejection rates. Similarly, the gap is expected to amount to $2 trillion in 2022 (Statista, 2022). Lack of external financing exposes companies to risks and limits their growth opportunities. Banks are more inclined to provide funding if the risks associated with financing are reduced. Therefore, 80% of trade is financed by credit or enabled by a credit insurer (World Trade Organization [WTO] & International Finance Corporation [IFC], 2019).

In the aftermath of the 2008-2009 financial crisis, the global financial sector has become increasingly hesitant to invest in developing countries, which in turn stretches the already substantial finance gap for SMEs in emerging markets. Adding to this challenge is the requirement by local banks to settle trade finance transactions in the currency of the transaction, necessitating the involvement of domestic banks. To participate in supply chain finance, local banks depend on international correspondent banks, but the number of such banking relationships has declined by approximately 200,000 since the financial crisis. As a result, the loss of these relationships has disproportionately affected Africa, the Caribbean, Central and Eastern Europe, and the Pacific Islands (World Trade Organization [WTO] & International Finance Corporation [IFC], 2019).

Reducing the trade financing gap is crucial for promoting further growth for the companies and the general economy. The following subchapter presents the motives of banks association with credit insurers to gain a more comprehensive understanding of the crucial link between credit insurers and funding opportunities.

Figure 8 Global Trade Finance Gap Evolution (2014-2020)



Source: Own elaboration (2023); Kim et al., (2021)

The increased adoption of digital technology has led to significant transformations in the banking industry, including changes in competition and the emergence of new business models driven by the rise of fintech startups. Traditional banks have also adapted to the new digital era by adding services, improving customer experience, and investing in new business models. In Europe, the three biggest banks by market capitalization in 2022 were HSBC Holdings, BNP Paribas, and Banco Santander (Statista, 2023). On the other hand, in the United States, leading banks are JPMorgan Chase, Bank of America, and Citigroup (Goldberg, 2023).

The credit insurance market is functioning as an oligopoly with three key players dominating two-thirds of the industry: Allianz Trade (31%), Atradius (24%), Coface (16%), and others (29%) (AU

Group, 2022). Due to their large size and dominating position, they possess an intensive scope of information on default rates, credit limits, financials, and buyer's payment behavior. They have a solid international position and capabilities to provide credit management services globally.

Figure 9 Credit Insurance Key Players

Source: Own elaboration (2023)

The macroeconomic situation in 2021 saw a significant improvement compared to the previous year, resulting highly beneficial for credit insurers. We have witnessed an increase of more than 7% in premiums and a low level of claims (AU Group, 2022). However, this recovery slowed in 2022 due to Russia's invasion of Ukraine, which has caused the isolation of Russia from the SWIFT banking system and the prevailing export bans that prevent access to essential commodities. In addition, inflation rose to levels above 10% in Europe and at its highest at 9,1% in the United States. High inflation rates led central banks to increase interest rates further. As of February 8th, the fixed rate on the primary refinancing operations is 3% in the Euro area (European Central Bank, 2023). In the United States, the Federal Reserve interest rate was raised on February 2nd to 4,75% (Trading Economics, 2023). The rising interest rate is adding pressure on companies. Similarly, the economic growth in Europe is expected to be sluggish, with GDP growth of 0,6% in 2023 (Randow, 2023). In an increasingly volatile and interconnected global market, trade credit insurance will continue to be a vital element for corporations.

Credit insurance has emerged as a vital risk management tool for companies as it protects outstanding trade receivables against the risk of non-payment. They allow suppliers to protect themselves from the payment risks of their customers or debtors. Companies may transfer entirely or partially both the commercial and noncommercial risks linked to business transactions to the credit insurer (Jus, 2013). By concluding credit insurance, the insured commits to paying an insurance premium, and in case the risk materializes, the indemnification is made within the predetermined amount. A prerequisite for claim payment is that the risk of nonpayment occurs due to the debtor's permanent insolvency or prolonged delinquency. The surge in global trade has increased awareness of trade risks, leading to a greater demand for credit insurance. It offers soundness to trade by minimizing commercial and noncommercial risks. The global market size of credit insurance in 2021 was valued at $7,7 billion and is forecasted to grow at a CAGR of 11,1% from 2022 to 2030 (Grandview Research, 2022).

The principal customers of credit insurance are large enterprises accounting for 61,1% of 2021 the revenue (Expert interview, 2023). An increase in revenue is expected from SMEs and is mainly due to the increased credit offered, which has further caused difficulties for the companies' cashflows. Also, government support for SMEs worldwide enables their growth; consequently, they need credit insurance. Moreover, contracting credit insurance offers SMEs opportunities for better funding conditions as banks consider them lowered-risk companies.

3.1 Enabling Trade

3.1.1 Banks

Banks play a crucial role in facilitating trade by providing businesses with various financial services and instruments. The different products banks offer enterprises for trade finance can be grouped into "traditional" financial instruments and supply chain finance products, as illustrated in Figure 10. The first category can include letters of credit (LCs), bank guarantees, and documentary collection. The second one, supply chain finance (SCF), encompasses methods and strategies employed by banks to oversee the deployment of capital in the supply chain and mitigate risks for all parties involved. In this category, we can find products related to the transfer of receivables and other financing products backed by receivables (European Commission, 2020).

A) Products based on a transfer of receivables:

Depending on who is transferring the receivable, we find seller-led or buyer-led products:

A.1) Seller-led

a. Invoice discounting: This product is a transaction where a company sells the totality or a part of the trade receivables portfolio to a bank. Therefore, the company receives cash directly without waiting for the invoice's due date.
b. Forfaiting: In this case, there is a transfer where a company sells receivables converted to financial instruments, such as bills of exchange or promissory notes, to a bank. This is a collateralized transfer since the bank holds the financial instrument while the company receives cash.
c. Factoring: This is similar to invoice discounting, but in this case, a company sells the totality or a portion of the account receivables to a bank, which provides liquidity to the company. Usually, the bank also overlooks credit management. Factoring can be on a resource or a non-resource basis, distinguished by the bearer of the non-payment risk. On

a non-resource basis, the factor holds the non-payment risk, and on a resource base, the company is obligated to repurchase uncollected invoices and bear the non-payment risk.

A.2) Buyer-led transfer

d) Payables and supply chain finance in a narrow sense: Also known as reverse factoring, it refers to a scenario where a buyer company enables suppliers or creditors to sell their account receivables. This approach accelerates the suppliers' cash flow and empowers the buyer company to negotiate discounts and extended payment terms.

The second supply chain finance category is backed by receivables, which comprises loans or advances against receivables, distributor finance, loans or advances against inventory, and pre-shipment finance.

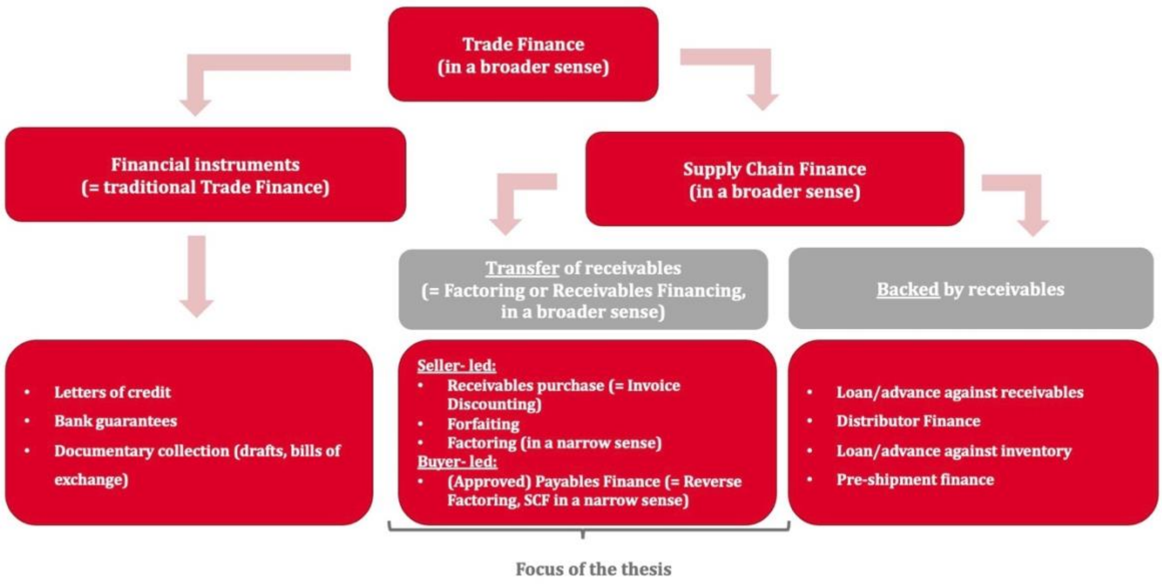
B) Backed by receivables

The second category of supply chain finance consists of backed by receivables, which comprises financial products like:

a) Loan or advance against receivables refers to a bank making financing available to a company with the anticipation that payment will be made using funds generated from present or future trade debts.
b) Distributor finance: This case refers to a type of funding that provides financial assistance to a distributor of a major manufacturer. Its main objective is to help cover the costs associated with holding goods for resale and fill any potential liquidity gaps until the distributor receives payment from trade receivables after selling the goods to an end customer or retailer.
a) Loans or advances against inventory: This refers to a scenario where a bank provides financing to a company for the holding or warehousing of goods.
b) Pre-shipment finance occurs when a bank provides financing to a company for sourcing, manufacturing, or converting raw materials or semi-finished goods into finished goods sold to a buyer.

For the purpose of the thesis, a potential collaboration between Amazon and credit insurers, the focus will be on financing products based on the transfer of receivables.

Figure 10 Trade Finance Solutions Provided by Banks



Source: Own Elaboration (2023); Expert Interview (2023)

Supply Chain Finance (SCF) enables companies to efficiently manage their working capital and liquidity by streamlining their supply chain operations and transactions. As we saw before, SCF traditionally comprises two categories; receivables transfer and financing backed by receivables. However, it can also be applied to open account trade, which means transactions not supported by a banking or documentary trade instrument. Over the past decades, open account trade has grown tremendously, representing most of the overall trade finance revenue pool. Therefore, supply chain finance has outpaced traditional trade finance. The change can be attributed to the maturation of trading relationships and the enhanced transparency in global supply chains, reducing the necessity for risk mitigation.

Furthermore, trade finance providers have encountered mounting costs and complexity caused by stricter compliance requirements, which have squeezed their margins due to heightened competition. Traditional trade finance now offers returns below the cost of capital for most banks. In contrast, returns on SCF can be up to 50% higher than those on traditional trade finance.

In 2019, BCG and ICC surveyed banks and corporates to gauge their views on digital ecosystems. The findings showed that over 80% of the respondents identified supply chain finance and receivable finance as having the most rapid growth potential. However, a significant 38% of participants felt that the demand for documentary trade would continue to decline (BCG & ICC, 2019). It is crucial to recognize that these two options are not mutually exclusive since their suitability depends on the company's size. Particularly, SMEs will continue to require documentary trade for a risk mitigation approach.

3.1.2 Credit insurers

Credit insurance, also referred to as trade credit insurance or accounts receivable insurance, is a risk management tool that protects businesses against losses resulting from non-payment of debts owed by their clients. It covers the risks associated with trade credit, which involves offering credit terms to buyers who purchase goods or services. In other words, credit insurance safeguards businesses from financial losses caused by defaulting customers who fail to pay for the products or services they have received on credit. Therefore, credit insurance enables and enhances trade. It can benefit two key parties: the policyholder, who acquires the policy, and the buyer, who does business with the policyholder.

Policyholders benefit from improved competitiveness by allowing them to offer more favorable payment terms, thus increasing their market share and revenue. Secondly, credit insurance supports cash flow, improves working capital efficiency, and fosters strong relationships with suppliers and employees. Enhanced management and mitigation of credit risk help ensure liquidity and profitability. Thirdly, it improves access to external financing by reducing risk for lenders. Lastly, it facilitates meeting the risk management requirements of stakeholders, safeguarding their reputation and financial stability against credit-related risks (Atradius, 2022).

On the other hand, buyers benefit from credit insurance through the policyholder’s risk mitigation. Since assuming the buyer's risk of non-payment, credit insurance enables policyholders to extend more favorable payment terms to the buyers.

Credit insurance is an effective protection for payment default risks. In addition, credit insurers offer other valuable services such as credit information, risk monitoring, debt collection, and advisory within the serviced credit insurance. A typical short-term policy aims to mitigate the risk of selecting unfavorable or high-risk transactions while providing coverage for eligible export and domestic trade. In general, policies operate under the principles of whole turnover, which means that all transactions with eligible buyers within a defined period are under the scope of the policy.

The credit insurance operations have three crucial phases identified in Figure 11; the first phase is when commercial information is gathered to classify risks and make an offer to the prospect of a credit insurance policy. In the second phase, the policyholder begins trades under policy protection, actively managing the risk. The last phase comprises payment collection and claims indemnification in the case of buyer insolvency or protracted payment default.

In the initial stages of a credit insurance sales process, a company submits to the insurer a submission of proposal or insurance request along with a completed questionnaire. This is predominantly due to the highly customized nature of the contract. The application must comprise information about the company, sales, annual turnover by country, main buyer risk, business dynamics, and projected sales. It is also fundamental that the insured shares previous payment experience, especially information related to nonpayment, credit losses, delayed payments, average delays, and outstanding debt balances. Information on payment terms and conditions like payment methods and contractual and present terms with customers, company credit risk management, routine monitoring of the buyers' creditworthiness, and debt collection methods. All the information provided must be factual. A credit insurance contract is an agreement that requires the highest level of good faith, known as *'uberrimae fidei'* in legal terms, from both parties involved.

The first draft of the insurance contract is created based on the information obtained in the submission. Ultimately, suppose there is an agreement between parts. In that case, the final contract is concluded by reflecting the insurance conditions for the accepted credit risk portfolio for business transactions, insurance premium rates, and other commercial terms and conditions.

Once the contract is signed, the credit limits from buyers whose operations the customer seeks to insure must be communicated to the insurance company. The credit limit request can include information on buyers such as their payment record, credit periods, previous late payments, goods delivered or services rendered, annual sales turnover including their value and growth, average outstanding debts, and additional risk assessment information (Jus, 2013). In some cases, companies can set limits to a certain amount based on agreed criteria.

At this point, the company can begin its trades under policy protection. The credit risk arises simultaneously with the delivery of the goods, and the insurer initiates the process of risk monitoring. Risks are monitored by gathering financial information on buyers and payment data provided by customers, especially overdue notifications, and using various tools by gathering economic information from press releases and news. Direct contact between credit underwriters and buyers is vital in cases of considerable exposure or weak buyers.

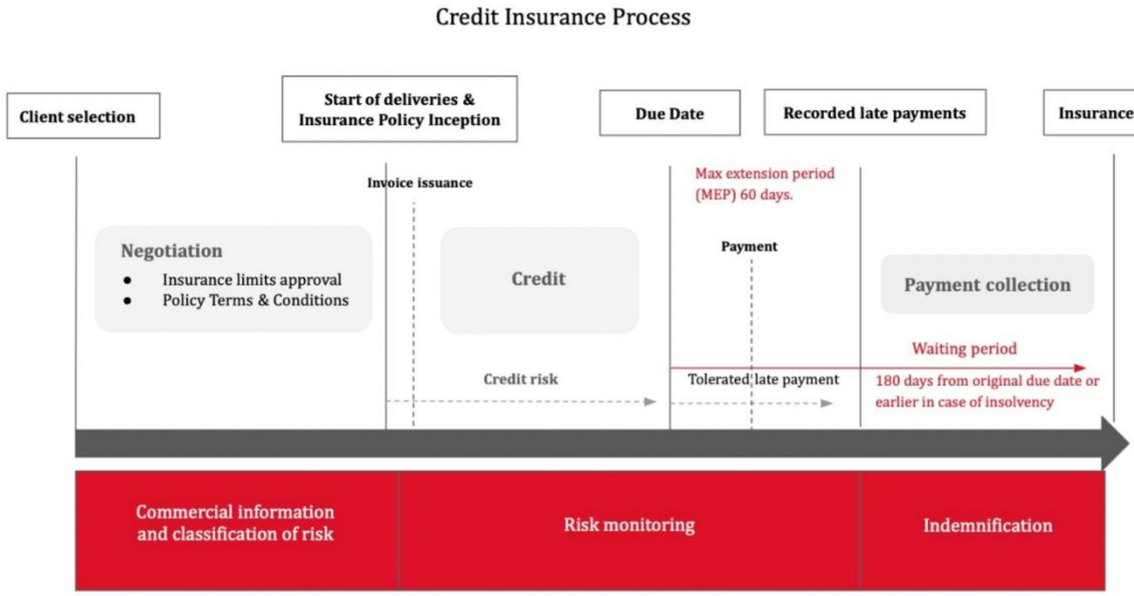
Often insurers offer an online service to the policyholders through which they can obtain instant replies to credit limit applications and classification requests and inform the insurance company about any incidences or changes in payments and solvency. Given this information, the insured can further manage the buyer risk by deciding the amount of credit and modifying it according to the situation. Similarly, the insured party must communicate to the insurer all events that come to their attention and entail an aggravation of the guaranteed risks. Moreover, the insured must notify of payment defaults and due date extensions of insurable limits. After the due date, most insurance policies include a maximum extension period (MEP) of 60 days. Latest after 30 days (in most cases), the customer needs to transfer the open balance to collection. According to credit insurance contracts, policyholders must communicate the claim usually 180 days from the original due date or at the insolvency date.

Claims management is carried out by a vast network of professionals, lawyers, and attorneys with experience in debt collection, and they begin to exert pressure on clients in default. These professionals have a superior negotiating capacity to any individual supplier and therefore facilitate and increase the efficiency of the process. Any buyer at default will see a limitation in obtaining future credits, and this information is reflected immediately in the database of the credit insurer. The payment collection comprises two diverse scenarios. Firstly, if the debt is collected, the amount is returned to the customer. In this case, it is vital to highlight that in cases of partial credit limits, recovery actions are made for the totality of the debt. In the second scenario, there is no recovery, and the insurer indemnifies the guaranteed amount to the customer. In this manner, the customer protects their liquidity in trade.

Application Programming Interfaces (APIs)[1] are on the rise as they facilitate and accelerate processes while minimizing errors by enabling the connection of various applications and software between insurers and buyers. APIs connect the insurance company server to customers' enterprise resource planning system (ERP) to integrate all information related to the insurance policy. Their use allows companies to save time through automation and lack of repetition. For the insured party, it offers easy actions to, for instance, credit limit applications to which they receive an immediate answer. Also, information is always up to date with real-time data. Fundamentally, they offer added security due to the increased assurance of credit limit coverage.

[1] Application Programming Interfaces (APIs): Set of protocols, tools, and definitions that enable different software applications to communicate and interact with each other. APIs define the methods and rules for how software components should interact, allowing developers to access and utilize functionalities and data from other applications or systems.

Figure 11 Credit Insurance Process



Source: Own elaboration (2023); Expert interview Atradius (2023)

3.2 Risk management

Effective risk management allows companies to achieve a long-term competitive edge and business objectives. Risk management is of the utmost importance since risks can potentially decrease a company's profits, increase losses, cause cash flow problems, reduce capital, jeopardize financial stability, and even result in the cessation of business operations.

Risk management entails six fundamental elements that function on strategic and operational levels. An effective risk management system requires a well-developed information system and an optimized organizational structure that allocates risk-related responsibilities appropriately. Risk management involves identifying and analyzing risks in terms of their potential losses, probability, and other relevant factors. Moreover, the initial stages of risk management include studying risk exposures and assessing likely trends, which are continuously monitored throughout the risk management process. Companies rely on internal and external reporting and control mechanisms to manage risks effectively (Jus, 2013).

In addition, it assesses different protection methods and tools, including their effects, advantages, disadvantages, availability, and costs, to achieve their business objectives. Risk management teams employ different economic, financial, and legal instruments to ensure economic stability, achieve financial objectives, and create additional favorable impacts (Jus, 2013).

3.2.1 Credit Management

Credit management is a consistent and proactive approach that allows insurance companies to identify potential risks, assess their impact, and implement safeguards to minimize the risks associated with extending credit. Credit insurance companies manage credit risk on three levels: Credit limit, Buyer Level, and Portfolio level:

A) Credit limit:

The process starts with a credit limit application sent by the customer to the insurer. The amount of the credit limit application depends on the credit risk the customer maintains with the buyer. This application is managed by the insurance company based on the buyer parameters and the information available at this moment. Most of the applications are solved by the automatic system based on an algorithm. If the automated underwriting system cannot respond, an underwriter solves the credit limit manually. For decision-making, the insurance company uses all the information available regarding the buyer (financials, payment behavior, current exposure, credit rating) or customer policy (premium, claims). The response of the insurer can be granted the total amount, a partial decision, refusing the application, or asking for more information. Once the credit limit is given, the monitoring process at the Buyer level starts.

B) Buyer:

The level of risk exposure that the insurance company has in one buyer is the aggregation of all credit limits granted to different customers. Credit management at this level is an ongoing monitoring process that involves repeating key steps (see Figure 12). For each portfolio buyer, the company set up different parameters (Standard limit; Buyer review limit) and a subsequent review date that will be applied during the underwriting process. The standard limit is the maximum credit limit per policy, the "buyer review limit" is the maximum level of risk that the company wants to assume in one buyer, and the next review date is when the level of exposure and parameters must be reviewed.

For setting these parameters, the first step is to assess the available information of the buyer, mainly financial information. Once the information is gathered, it is analyzed, and a decision is made according to the credit risk profile of the buyer. If sufficient information is unavailable, the company may need to purchase a report covering the missing information required to make an informed decision.

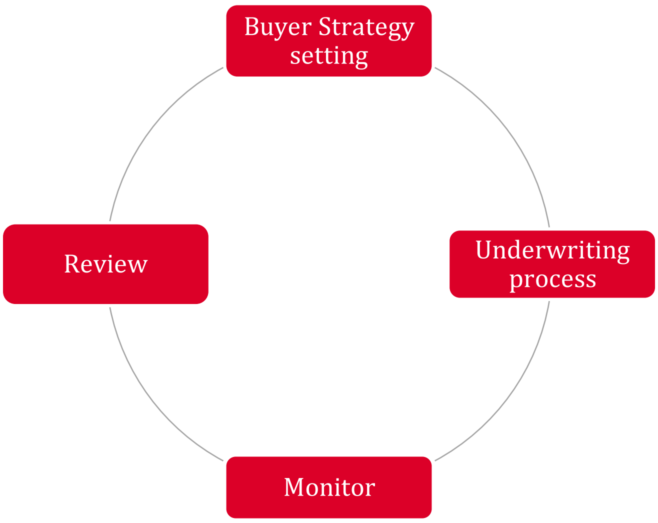
Once the parameters are set, the underwriting process starts (as we detailed in point A), solving the different buyer risk applications customers send. In parallel to this underwriting process, there is a monitoring process to ensure that the exposure of the buyers is according to their financial situation and meets the parameters set.

When the next review date arrives (or before, in case of negative information arises), the process begins anew with the assessment of available information, decision-making (maintain or reduce the exposure), the establishment of new parameters, and the next review date. This cyclical process continues to ensure that credit management remains effective and up to date.

C) Portfolio:

At this level, credit management includes the analysis and decision-making based on periodical reports with key risk indicators, such as concentration, risk per rating, risk by sectors/countries, or quality of service. This critical report allows the company to make strategic decisions.

Figure 12 Buyer Level Credit Management



Source: Own Elaboration (2023)

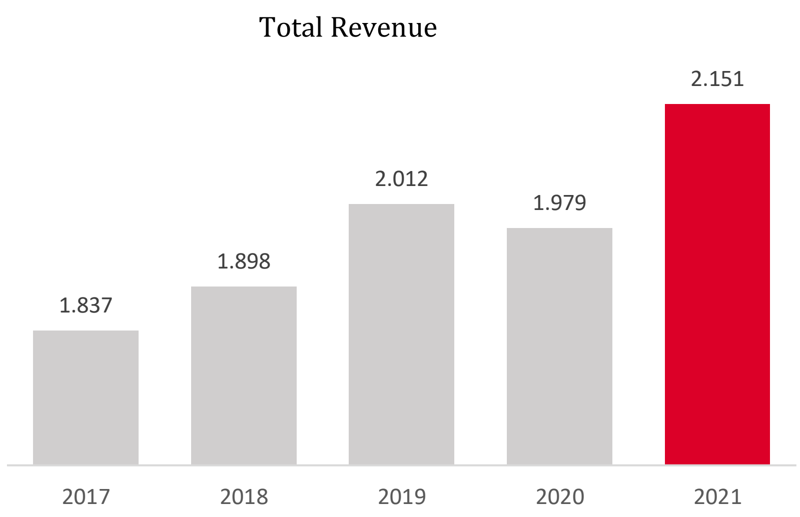
3.3 Atradius

Atradius is a global credit insurance provider in more than 50 countries. Grupo Catalana, a Spanish-holding family, entirely owns the company. Grupo Catalana offers credit insurance with two operating names, Crédito y Caución (CyC) and Atradius, distinguished mainly by the countries in which they operate, while CyC operates in Spain and Portugal, Atradius has an extensive global presence and brand recognition.

Atradius's growth has been through organic growth as well as mergers and acquisitions. The first company to be part of Atradius was a Dutch company founded in 1925 to improve domestic trade. Secondly, in Germany, a credit insurance company Gerling Credit formed in 1954, was the first private insurer that offered credit protection to foreign trade export practices. The two merged in 2001, and in 2004, Atradius became the company's new name and brand. Crédito y Caución, which continues to be part of the Grupo Catalana with Atradius, was established in 1929 in Spain and aims to be the leading credit insurer and surety provider on the Iberian Peninsula through organic growth (Atradius, 2023).

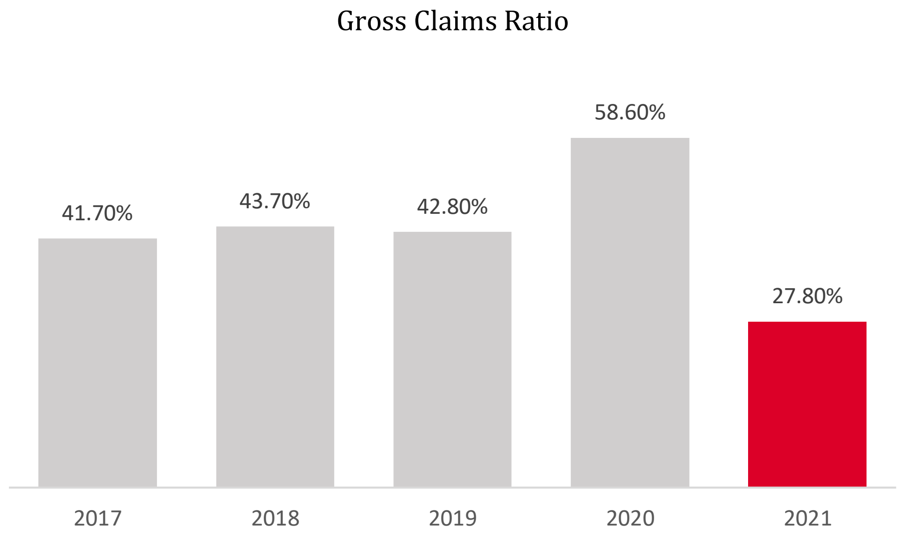
The company is characterized by its solid financial structure and vigorous growth. Atradius has a credit rating of A2 from Moody's and an A from A.M Best, both with a stable outlook (Atradius, 2021). In 2021, Atradius delivered the most significant growth in the industry, 8,7%, compared to the previous year. The company also recorded the highest turnover in its years of functioning, €2151 million. The operating result amounted to €240 million in the same year, notably higher than in 2020, €44 million. Equally, the gross claims ratio decreased to 27,8% in 2020 when it stood at 58,9% (Annual Report, 2021). Similarly, the net loss ratio, which measures claims to premiums, decreased; in 2021, it was 37,3% (AU Group, 2022).

Figure 13 Atradius Total Revenue 2017-2021 (€ M)



Source: Own elaboration (2023); Atradius Annual Report (2021)

Figure 14 Gross Claims Ratio (2017-2021)



Source: Own elaboration (2023); Atradius Annual Report (2021)

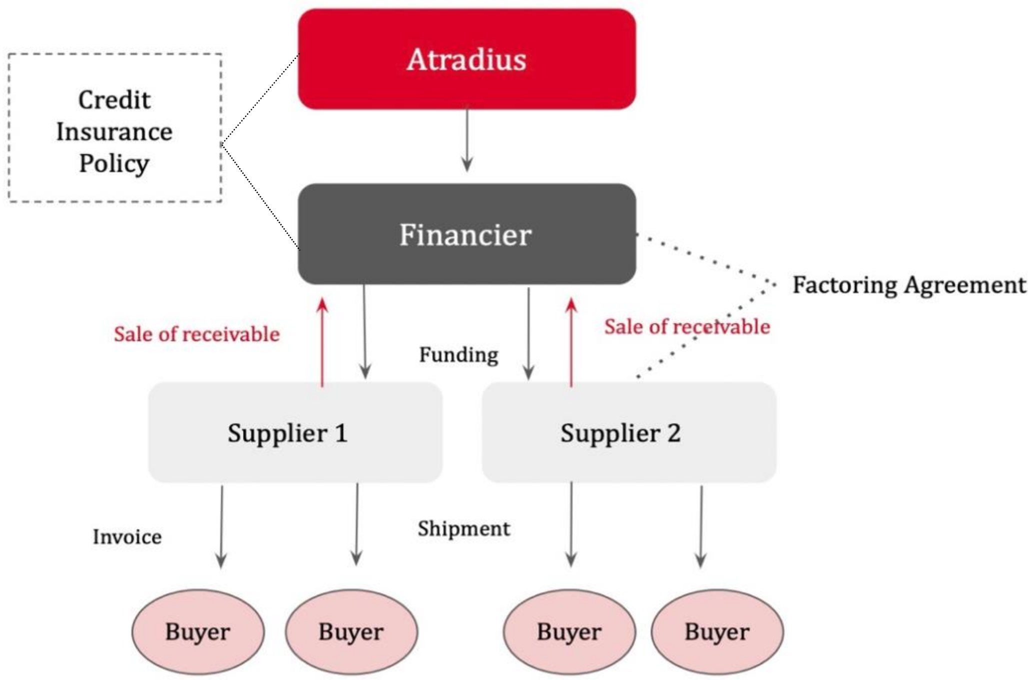
Atradius' principal business segment is credit insurance, with a revenue of 81,7% out of the total revenues, followed by reinsurance (7%), bonding (5,8%), and services (5,5%) (Atradius, 2021).

Atradius offers a customized credit management solution through a global policy for multinational companies. The company's credit insurance products are based on 'Modula,' an approach that allows policies to be tailored based on customer needs and designed to protect customers' entire turnover. An account manager, credit limit underwriting, online tools, and services support all policies. Medium-size and large companies are offered the Modula policy, which is similarly personalized based on the company's needs, operating sector, and whether the business is carried out domestically or internationally. Modula policy is also offered to SMEs but is made more straightforward to understand and administer. It is frequently tailored to specific markets or industries (Atradius Annual Report, 2023). In addition, Atradius offers daily credit management and risk assessment support to insured clients.

3.3.1 Atradius and Trade Finance

Atradius's relationship with banks in trade finance is twofold: offering insurance directly to the financier or through the credit policy to the supplier. If the insurance is direct with the financier and thereby acts as a client, there is a direct relation between the financier and Atradius. In a direct relationship, there are two possible ways: factoring and reverse factoring. In factoring, Atradius would purchase the bank's account receivables, ensuring cash flow and reducing risks, as illustrated in Figure 15. On the other hand, in reverse factoring, Atradius provides additional security to the bank by insuring the risk of non-payment by the suppliers. This, in turn, would allow the bank to offer more favorable terms to the company, such as lower interest rates or longer payment terms, as credit insurance provides an additional layer of security to the transaction.

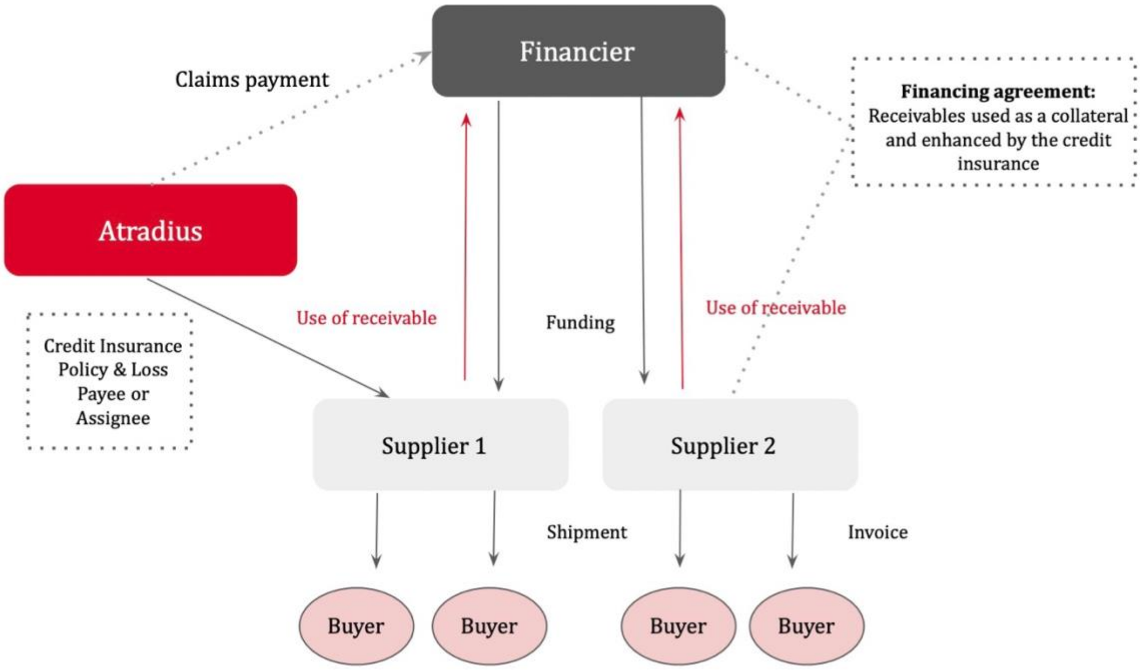
Figure 15 Factoring Contract



Source: Own elaboration (2023); Expert Interview Atradius (2023)

If insurance is provided to the supplier, the bank is the beneficiary on the policy, and the supplier is the client of Atradius. Therefore, there is an indirect relationship between Atradius and the financier. This relationship can consist of trade financier as well as assignee and loss payee relations. Trade financier consists of the supplier selling its receivables to a financier without recourses. As the receivable is sold, the insurable interest disappears, and the financier becomes the receivable owner. In this scenario, Atradius is solely providing security to the bank in the case of non-payment. Lastly, under assignee and loss payee, the financier will not receive any rights in the policy (see Figure 16). However, under the assignee, the claim payments go to the financier. Under the loss payee, the need to go to the financier or supplier is examined but is not definite. As the bank is a designated recipient of insurance payments in the event of loss or damage, it provides security to the bank.

Figure 16 Loss Payee and Assignee



Source: Own elaboration (2023); Expert Interview Atradius (2023)

Atradius's relationship with banks in trade finance is essential when considering the partnership with Amazon. Trade finance solutions offer risk minimization for banks that, consecutively, enable higher probabilities for obtaining financing. Similarly, companies would benefit from improved cash flow and management.

4. UNION OF AMAZON AND ATRADIUS

In the earlier chapters, noteworthy distinctions have been identified between the two entities regarding their strengths and weaknesses, current clientele, and data information. This chapter analyzes the possible repercussions of a potential union of Amazon and Atradius. Seeking to identify further the advantages this could provide for both companies' sustainable growth and risk management. The chapter discusses the union from three principal objectives: new businesses, risk mitigation, and data sharing synergies.

The explosive growth of e-commerce presents a vast opportunity for businesses with platform-based business models to succeed. As a significant player in the industry, Amazon aims to participate in the growing B2B e-commerce market actively. To build a thriving e-commerce ecosystem, connecting all relevant actors within the online marketplace is crucial, enabling smooth and secure trade. Given that Atradius specializes in credit insurance, the company is ideally positioned to participate in such ecosystems by mitigating credit risks. Also, the widening trade finance gap allows banks to collaborate with Atradius and provide financing to companies. By working together, they can help bridge this gap and support businesses' growth in trade.

The close-knit relationship between banks and credit insurers is beneficial in addressing the widening trade finance gap. The collaboration between the two is widespread primarily due to the following three motivations:

1. **Risk concentration:** Banks are eligible to hedge risk to the credit insurer.
2. **Improving loan approval rates:** Credit insurers provide an additional layer of security to lending, facilitating the approval of loans by reducing the risk associated with lending.
3. **Basel III:** The first pillar of Basel III on banking supervision has set measures of risk coverage, including revisions for measuring "credit risk, market risk, credit valuation adjustment risk, and operational risk," which result in a higher risk sensitivity, where credit insurers can reduce these mentioned risks (Bank for International Settlements, n.d). Similarly, stricter requirements have been put in for measuring exposure, encouraging using central counterparties for derivatives. Thanks to the collaboration with credit insurance companies, banks benefit from regulatory capital relief since they are required to set aside less capital as a buffer against the risk of counterparties defaulting. Hence, they are transforming enterprise risk with credit insurance company risk. This advantage allows financial institutions to offer more competitive rates and increase the amount they

can lend. Additionally, diversifying counterparty exposures further enhances lending ability (Financier, 2020).

The relationship with banks is a crucial issue when assessing the attractiveness of the union. Banks are not only heavily regulated institutions, but the regulations also vary by country of jurisdiction. It is challenging for a bank to have a global presence. In the European Union, the European Central Bank (ECB) authorizes banks and thoroughly evaluates their compliance with legal requirements (European Central Bank, 2022). Meanwhile, in the United States (US), the Office of the Comptroller of the Currency (OCC) is responsible for granting banking licenses to national banks and agencies of foreign banks, among other functions (Office of the Comptroller of the Currency, n.d) Additionally, banks must also apply to the Federal Deposit Insurance Corporation (FDIC). To obtain a banking license, the bank must meet the regulatory requirements of the jurisdiction in which it wishes to operate, whether on a national or state level (in the case of the US).

Moreover, banks must comply with international banking regulations such as the Basel III framework, which outlines capital requirements and other prudential standards. Overall, obtaining an international banking license requires significant resources, which can limit the bank's geographical scope, resulting in operations being limited to a few countries. Due to the regulatory challenges, Amazon is not interested in entering the banking industry. Amazon has chosen to form strategic partnerships with external companies to navigate these regulations. By relying on these partnerships, Amazon can overcome regulatory hurdles without seeking entry into highly regulated industries.

However, at present, there are essential lackings in their financial services offering as their primary partner is Bank of America which counts with a license solely in the United States. Amazon is a global company; therefore, the company is again looking at a new regulatory hurdle in assessing worldwide financing.

Atradius presents an attractive opportunity due to its global presence that enables it to offer services worldwide. Additionally, Atradius' global network of banking partnerships can be leveraged to facilitate Amazon with banking partnerships in each market or region. Thus, the credit insurer could provide Amazon access to a more extensive network of financing partners, overcome the regulatory hurdle, and enable them to secure more flexible and diverse financing options while reducing credit risk. Finally, reducing the trade finance gap can be crucial by leveraging the strong relationship between banks.

4.1 Impact on Amazon Ecosystem

Amazon's financial services ecosystem comprises financial services offered directly by the partners (banks, insurance firms, and credit card firms) to sellers and buyers and services provided directly by Amazon (See Figure 17). These partnerships are crucial to Amazon as it allows the offering of tailored products for sellers and buyers, further promoting activity on the platform.

Amazon currently has partnerships with insurance companies such as Liberty Mutual Insurance, HISCOX, and Travelers Insurance, among others offering to the platform members coverage against different risks related to, e.g., product and travel coverage. It is safe to say that a partnership with a credit insurer works on a much larger scale in facilitating protection against credit risk, improving the company's financial stability, and increasing its operational efficiency.

Figure 17 Amazon Financial Services Ecosystem

Source: Own Elaboration (2023). (Note: The scheme is valid for Vendor and Seller schemes).

The integration of credit insurance into the platform ecosystem presents unique opportunities for Amazon to benefit, with the nature of these benefits varying depending on whether the seller is acting as a Vendor[2] or Seller[3] on the platform.

A) Vendor / 1st party Scheme

When Amazon sells directly to buyers in a first relationship, it assumes credit risk by offering the buyers "Pay by Invoice" as a payment method. In this scenario, Amazon could sign a credit

[2] Amazon Vendor: first party relationship: Vendor sells products to Amazon and thereby acts as a seller.
[3] Amazon Seller: 3rd party relationship: Seller sells products directly to buyers through Amazon platform.

insurance policy with Atradius to transfer the credit risk. At the same time, buyers could benefit from improved credit terms by integrating credit insurance into these direct transactions. Therefore, resulting favorable for both buyer and Amazon as well as Atradius.

B) Seller / 3rd party Scheme

In a seller relationship where the seller uses Amazon's platform to sell directly to the buyer, offering credit terms can entail credit risk for the seller. However, being the marketplace owner, Amazon can leverage partnerships with third-party credit insurance and financing service providers to reduce this risk and provide finance. This threefold structure presents several possibilities.

B.1) Credit Insurance: Sellers can sign a credit insurance policy with Atradius, enabling the platform to offer buyers credit terms based on the credit insurance service.

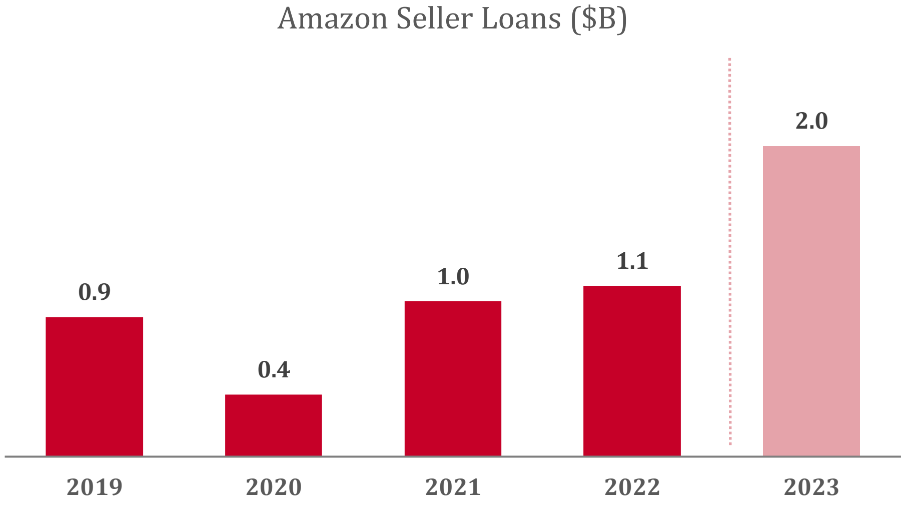
B.2) Financing: According to estimates, Amazon is increasing seller lending to over $2 billion in 2023, representing an increase of more than 80% from the previous year (Kim, 2023). Due to this increase, the company raises concerns about the estimated loss rate of 1,34%. To answer these risks, Amazon is searching to tighten its underwriting procedures, as they mention that the lending program's primary risk is borrowers defaulting (Kim, 2023).

Amazon's lending is an invitation-only program that carefully selects sellers eligible for loans. In chapter two, Amazon's lending eligibility for sellers was explained in detail, from the pre-screen criteria to further evaluation by the company's internal criteria. In 2019 the take rate of Amazon lending added up to only 30-35%. However, it is reasonable to assume that the take rate has risen due to the high increase in seller loans.

Figure 18 demonstrates the evolution of Amazon Seller loans from 2019 to 2023. All loans to sellers are collateralized, including inventory, all accounts, equipment or tangible personal property, insurance, proceeds or products of the preceding, etc. Even though Bank of America secures all the loans, Amazon primarily takes the risk except in cases of sudden high loss (Expert interview, 2023).

The credit loss of loans is equally driven by bankruptcy and contractual loss. For instance, in 2020, there was a significant reduction in seller loans due to seller bankruptcy predictions. However, from that year onwards, Amazon has been more generous in giving loans to grow the platform business further.

Figure 18 Amazon Seller Loans (2019-2023)



Source: Own elaboration (2023); Insider (2023); Expert interview (2023).

The growing portfolio of seller loans might present an opportunity for both Amazon and Atradius. Due to the high risk of these loans, two advantages exist arising from the union. For instance, these loans could be substituted with a factoring agreement, allowing sellers similarly to obtain funds. However, Atradius would cover these funds as the supplier sells the receivable to the bank, which has a policy with Atradius. The second scenario consists of utilizing Atradius' expertise in underwriting and monitoring the creditworthiness of sellers. This would allow Amazon to answer to the estimated growing loss rate. The last scenario would include Amazon utilizing Atradius' non-binding Indication, which provides an indicatory credit limit.

B.2.1) Insured sellers can obtain financing from a bank that is the Loss Payee & Assignee (See chapter 3.3.1).

B.2.2) Banks can sign a credit insurance policy and offer to finance sellers. The latter represents a direct relation: factoring agreement between the two (See chapter 3.3.1).

B.2.3) Sharing Expertise

To conclude, integrating financing solutions into the Amazon platform involves partnerships with financial institutions, whereby banks provide funding and credit insurers offer protection to banks or businesses. Amazon's role is to provide a user-friendly platform that facilitates easy access to financing options while allowing businesses to conduct their regular operations seamlessly. Consequently, businesses can efficiently secure funding directly on the Amazon platform while benefitting from the protection offered by credit insurers.

Moreover, Atradius can bring value to the marketplace during onboarding and trading. In the onboarding process, Atradius can support The Company with due diligence and by assessing the creditworthiness of new sellers and buyers. This could help Amazon mitigate bad debt, which is explained in more detail in Chapter 4.4. Credit insurance policies can provide soundness to trade by minimizing risks in the trading process. Therefore, Atradius can play a central role in safeguarding the marketplace by continuously monitoring the creditworthiness of sellers and buyers.

4.1 New Business Segments

An essential factor that sets Amazon and Atradius apart is their customer bases. While Amazon's clientele primarily comprises SMEs, contributing 50% of its sales revenue, Atradius focuses on larger enterprises. The difference in their customer base and shared objective of expanding their irrespective customer bases are crucial in promoting their potential collaboration. By forming a union, both companies can leverage each other's clientele to gain a more significant market share in their respective target markets.

Atradius and financial services have low penetration in SMEs due to limited information. Similarly, lower penetration implies less experience, which means a lower capability to underwrite risk. Banks face a similar challenge in providing financial services to SMEs due to concerns over distribution costs and the higher risks associated with funding these businesses. Compared to large enterprises, SMEs often have less established credit histories and lower creditworthiness, impeding lenders from assessing their ability to repay loans. This increases the risk of counterparty default, a significant concern for banks. Counterparty risk is higher in SMEs than in large enterprises. These businesses often need larger companies' financial resources and market position and may be more vulnerable to economic downturns and other external factors. This limits the penetration of banks and other financial institutions in the SME market and creates challenges for SMEs to access financing and other financial services.

Therefore, for Atradius, the possibilities arising from the different clientele come from Amazon's higher amount of information regarding SME companies: payment records, default rates, and buyers. Since the company currently has lower capabilities of underwriting risk in SMEs, it would have to invest a significant amount of monetary resources in company reports and underwriters. While obtaining individual company reports may not be expensive in isolation, the cost quickly accumulates due to the vast number of companies whose reports must be acquired. In addition, underwriters are experienced and valuable employees to the company, and therefore also costly in terms of wages. In the United States, an average annual salary of an underwriter is $84,478 (Talent.com, 2023). Consequently, Atradius would benefit from cost-savings and more information that would enable the company to increase its expertise in underwriting risk in SMEs. This would directly facilitate the company to expand its customer base because Amazon would provide affordable access through its platform to these companies.

Conversely, Amazon would benefit from Atradius' higher penetration in enterprises as they would get access to these clients, an attractive clientele due to its higher security and consistent cyclical purchasing pattern. Increased penetration in enterprises also entails various changes to Amazon's current model. Even though they are considered safer regarding fraud risk, enterprises require different payment terms, such as increased use of payment by invoice and line of credit. Therefore, a partnership with Atradius is vital for their expansion in enterprises.

4.2 Risk mitigation

Risk mitigation and funding support go hand in hand. Credit insurers are highly skilled at managing a wide range of credit risks, making them a trusted and reliable partner for Amazon seeking to mitigate potential financial losses. Atradius can support the Amazon platform in increasing credit terms and lending to sellers and buyers by offering insurance solutions. Similarly, these insurance solutions provide a risk mitigation tool for non-payment.

Trade Credit Insurance can cover defaulted Pay by Invoice payments that amount to 42% of US B2B sales. According to 2021 estimates, B2B sales paid by invoice amounted to $4,5 billion annually, with a default rate of 4%. In the first-party relationship, Atradius has an opportunity to support Amazon's operations by providing trade credit insurance for all sales where Amazon legally owns the receivable. However, in a third-party relationship, Sellers have no incentive to seek additional insurance as their payments are guaranteed by Amazon. Therefore, the opportunities for Atradius to provide credit insurance for third-party sellers are limited, as Amazon already hedges the receivable owner. Nonetheless, the partnership between Amazon and Atradius can still be mutually beneficial by providing financial stability and risk management solutions to Amazon's B2B customers.

Amazon has few possibilities to mitigate the current risks; three different action plans can be taken. Firstly, the company might develop an underwriting experience, which is costly and time-consuming. Similarly, this industry is highly regulated, and creating a regulatory framework would require substantial investments, making it an unappealing prospect for Amazon. Secondly, they might consider buying a bank or a credit insurer. This option also poses various difficulties and is still an unlikely scenario. The only feasible strategy for Amazon is partnering up with a credit insurer, which is the goal of the study of this dissertation. Therefore, the win-win situation for Amazon arises through their need for underwriting experience.

4.4 Data Information

The diverse data insights of credit insurers and e-commerce companies can significantly impact risk management and growth in market share for both parties. They can leverage each other's strengths and fill gaps in their datasets.

The critical win-win situation in data arises from the complementary strengths of Atradius and Amazon. While Atradius lacks comprehensive information in the SME segment, Amazon has robust trade data on this market segment. Thus, Atradius can leverage Amazon's platform to access this data and enhance its underwriting experience. Conversely, Amazon has limited experience serving enterprise clients, a gap that Atradius can fill with its expertise in this area, enabling it to expand its business operations.

Amazon's extensive data sources and analytical tools provide the company with a wealth of information about its platform sales, seller website traffic, and customer retention. By collecting data about buyers and sellers on its platform, Amazon can classify and evaluate users based on their behavior, preferences, and transaction history. Thanks to its customer-centric approach, Amazon has a deep understanding of the needs and behaviors of its users, which allows the company to assess the creditworthiness and funding requirements of small and medium-sized enterprises (SMEs) that do not have access to traditional banking services. Additionally, by analyzing trading transactions and comparing them to similar companies, Amazon can create predictions on the behaviors of these companies, enabling the company to identify opportunities and mitigate risks.

Amazon's data is highly complementary to credit insurers, as the latter receive limited information about a company's trading history, only being notified in the event of non-payment. Also, due to the low penetration in SMEs, Atradius does not have payment experience in this segment. By contrast, Amazon has access to a wealth of information about its sellers, including their sales volume, customer feedback, and transaction history. By sharing this data with credit insurers, Amazon could provide a complete picture of companies of all sizes' creditworthiness, allowing credit insurers such as Atradius to make more informed decisions about credit limits, payment terms, and collection strategies.

On the other hand, Atradius possesses knowledge of enterprises' use of trade credit insurance, such as credit limits and payment terms. Information that provides visibility on the supplier-buyer relationship when credit insurance is used. Similarly, information on past payment behavior and identify patterns and insights on offline companies new to Amazon. Also, insights on business outside of Amazon can provide essential information to understand the client's business scope better.

A significant challenge for Amazon has been the increasing amount of bad debt write-offs, which have resulted in high costs for the company. As we have seen in Chapter 2, bad debt can arise due to credit- and fraud risks. However, in B2B transactions, the fraud risk is typically lower since more information is required from businesses. Moreover, credit risk can be managed and mitigated through a credit insurer. By combining both the companies' databases and the use of technology, there exist possibilities for both to create more accurate rating services when assessing the financial standing of new sellers. Similarly, the immersive global scope of information ensures Atradius can identify fraud patterns and ensure lower fraud levels.

Both companies gain significantly from leveraging each other's data (See Table 2). They can better understand the trade landscape by combining their data insights, including potential risks and opportunities. This would enable both to make more informed decisions in underwriting risks and efficiently foreseeing and managing risk. Lastly, both would potentially expand to their irrespective customer bases and benefit from higher revenues.

Table 2 Data Insights Advantages and Limitations

	Atradius	Amazon
Advantages	• Information on merchant's use of trade credit insurance • Insights on business outside of Amazon as well as offline merchants. • Information on supplier and merchant relationships, and payment behavior when trade credit is used (negative information) • Increased ability to identify patterns, e.g., fraud cases.	• **Platform-based insights** include: 1. Sales on platform 2. Revenue generated (e.g., per product, geographical data) 3. Traffic on seller sites 4. Retention of customers • The ability to predictions and evaluations on merchants' performance using the information on similar companies.

Limitations	• Difficulties to evaluate new businesses and smaller companies (SME) due to lack of experience and, presently information.	• Currently, financial service decisions are based on internal data (limited to activity on the platform) • No visibility to the outside of the company • No visibility on company margins or profitability.

Own Elaboration (2023)

Establishing synergies between connectivity, data, and omnichannel integration offers a mutually beneficial opportunity for all parties involved. By integrating these elements, access to data becomes more widespread and readily available, enhancing the power of data analytics through more affluent and diverse data sets. An integrated omnichannel service has the potential to improve the accuracy of algorithms, providing more precise insights and analysis. In the financial industry, parameters such as the probability of default and loss given default can become more accurate with the combination of positive trading data as it provides a closer look at the relationships between suppliers and merchants and their payment behavior.

4.4.1 Payment Information

Credit insurance, payments, and creditworthiness are crucial factors determining the risk level of extending credit to buyers. By combining payment information from both companies, Atradius and Amazon could benefit from improved risk management and a better understanding of their buyers' behavior.

Currently, Atradius only collects negative payment behavior data and cannot access the buyer's complete payment history. This means that the first time Atradius learns about non-payment is when the seller submits a claim. In contrast, Amazon’s positive payment data is widely accessible thanks to digitalized payments. Positive trading data could be helpful for Atradius in creating a complete picture of a buyer’s payment behavior, which would facilitate better risk management and more accurate underwriting decisions.

Furthermore, credit insurers rely on a well-designed client payment rating system that assesses the payment behavior of clients. The rating is downgraded progressively from the first instance of non-payment to the worst level, after which the client cannot conduct further transactions. By leveraging this rating system, Amazon could mitigate bad debt resulting from credit risk.

In addition to providing basic credit insurance operations, Atradius offers its clients discretionary credit limits (DCL)[4]. This allows policyholders to make credit decisions quickly and efficiently without waiting for approval from the credit insurance company. Credit limit decisions are not outsourced to a credit insurer when using a DCL. DCL can be based on various criteria, such as existing credit management processes, credit reports, the payment experience, or credit insurers' rating products. A detailed analysis of the credit management process is necessary before the credit insurer can approve a sizeable amount of DCL.

4.4.2 Artificial Intelligence

Insurance has always been a data-driven industry. Atradius uses machine learning, artificial intelligence, and big data in risk and credit management, allowing the company to manage risk more accurately, enhance efficiency, and improve customer satisfaction.

Machine learning is used in data retrieval and processing that permits automating workloads and optimizing risk decisions. The company employs web scrapers, APIs, and other linked technologies to gather real-time data regarding "M&A transactions, changes in management, payment defaults, launching of new products, job advertisements, sanctions, litigations, labor strikes, among others" (Atradius, 2022). This data is precious when assessing clients' credit risk.

The continuous automation of processes allows the company to achieve higher customer satisfaction and process efficiency. As explained in Chapter 3.3, typical underwriting cases are fully automated, and an underwriter only intervenes when the system cannot introduce a credit limit. This is particularly important for such a large credit insurer with many clients. Similarly, artificial intelligence can facilitate underwriters by concluding information in the media or companies' annual reports, leading to better risk management.

Atradius was recently awarded the Best Risk Management Implementation Fintech Innovation Award on April 5th, 2023. This recognition was given for using Temenos Artificial Intelligence to improve customer experience and reduce risk. Using AI innovatively, Atradius has reduced risk through effective risk management while improving customer experience. With AI playing an integral role in risk reduction, Atradius has successfully implemented growth strategies while

[4] Discretionary Credit Limit (DCL): The amount up to which a policyholder may set a credit limit themselves on their buyers based on criteria defined in the credit insurance policy, such as previous payment experience, reliable credit reports or their credit management procedures.

ensuring a reduction in claims. Automating workloads has accelerated the approval speed, enhancing the credit insurer's operations overall. Atradius' advanced use of technology to manage credit risk presents a compelling opportunity for Amazon to leverage its existing AI tools and partnerships for risk management, thereby enhancing its risk management capabilities.

In response to the increasing prominence of artificial intelligence also, Amazon has made substantial investments in cloud computing, promoting efficient data processing and securing the storage of customer information. Also, the company has expressed intentions to allocate $35 billion to data centers, which would enhance its ability to handle large volumes of data and facilitate real-time data analysis (Hamilton, 2023).

4.5 The attractiveness of the union

After analyzing both companies' aspects and current challenges, it is possible to evaluate the potential benefits and threats of a partnership between them. Table 3 on page 44 summarizes the opportunities discussed in detail for both parties separately in three categories: new businesses, risk mitigation, and data sharing, and identifies the threats that arise from the union.

Two central factors strengthen the assessment of the partnership's opportunities. Firstly, the significant growth of B2B e-commerce provides a solid foundation for Amazon and Atradius to tap into a thriving market. Secondly, the evolving e-commerce ecosystem emphasizes the importance of integrating financial services, offering both companies a logical and advantageous path as they navigate the future landscape.

Ultimately new business avenues development for e-commerce is highly linked to the tight relationship between credit insurers and banks. Through increased funding, e-commerce platforms can provide lending, further enabling B2B companies to grow their business and reduce the prevailing trade finance gap. Moreover, financial services' higher penetration within enterprises will provide a venue for Amazon to tap into enterprise-size companies. Conversely, credit insurers can increase their share in SMEs by leveraging e-commerce's more significant penetration and knowledge of this type of companies. This way, credit insurers can hedge the substantial costs they would have to acquire in underwriting experience and company reports. By leveraging the additional information provided by Amazon, this transition could be significantly less risky, as credit insurers would gain valuable insights enabling them to make more informed risk assessments.

Risk mitigation is another advantage, as credit insurers can assist e-commerce in reducing bad debt through credit risk management and more significant identification of fraud patterns. Moreover, credit insurance solutions can mitigate non-payments, which is especially useful in enterprise companies where the most used payment methods are line of credit and pay-by-invoice. Additionally, using rating services and risk scoring for buyers serves as crucial tools that facilitate a thorough evaluation of their financial position and the corresponding risks involved throughout the entire trade period.

Lastly, data sharing between the two entities facilitates a deeper understanding of payments and client profiles, ultimately leading to the prospect of greater accuracy in key financial metrics for Atradius. In contrast, for Amazon, sharing data would enable a much deeper understanding of supplier-merchant relationships and transactions made outside the platform, enabling a better assessment of their B2B clients. Combining both sectors' efforts in AI will promote efficiency in data processing and storing in large amounts and enhance real-time analysis that can be used for risk assessment purposes.

As with any partnership, there are inherent risks involved. One of the primary risks includes the potential for a supply surplus caused by increased lending availability. Additionally, for e-commerce, there is a risk that companies begin creating their own platforms for trade and end up utilizing Atradius' expertise without relying on Amazon's platform. Data privacy concerns are also significant, as Amazon and Atradius handle sensitive information.

Credit insurers face the threat of having their expertise and information exploited by Amazon and then being abruptly cut off. Additionally, the credit insurer faces the threat of limited capacity if funding necessities increase extensively. Furthermore, venturing into the SME market poses an elevated risk due to the general tendency of SMEs to have less stringent financial practices and standards. Finally, there is a risk that the information synergies between Amazon and Atradius may not sufficiently compensate for the lack of data needed to improve risk management and address the high distribution costs associated with entering SME markets.

Table 3 Opportunity and Threat Matrix

	AMAZON	ATRADIUS
	Opportunities	Opportunities
New businessess	• Higher penetration to enterprises. • Take advantage of the trade financing gap. • Funding support: increasing lending to sellers and buyers by offering insurance solutions. • Passing the international regulatory hurdle. • Higher funding opportunities through the important connection credit insurers have with banks. • Possible increase in revenue by capturing more enterprise companies.	• Higher penetration to SMEs. • Possibly higher revenues by the increase in customer base.
Risk mitigation	• Improved risk management • Reduction in bad debt through credit risk management and more significant identification of fraud patterns. • Risk mitigation and growth: Enterprises have a high default risk due to the high share of the line of credit and pay-by-invoice, and therefore insurance solutions are vital to mitigate the risk of non-payment buyers. • Rating services to evaluate the financial standing of new sellers. • Risk Scoring (Atradius Buyer Rating)	• Amazon's higher information on SMEs would allow cost savings and higher efficiency in underwriting capabilities. • Positive trading data (See Data Sharing).

Data Sharing	• Data insights: Knowledge of merchants' use of trade credit insurance, insights on business outside of Amazon, visibility to supplier-merchant relationships and payment behavior when trade credit is used, and insights on offline merchants. • Atradius AI tools in improving customer experience and risk management.	• Positive trading data could lead to an improved risk algorithm and higher accuracy in the probability of default and loss given default. • Data insights: Sales on the platform, revenue generated, traffic on seller sites, and retention of customers lead to a well-rounded flow of information, allowing the company to capitalize on positive trading data. • Amazon AI and data centers: facilitating data processing in extensive amounts, efficient storage, and real-time analysis.
	Threats	**Threats**
	• Increasing lending availability in the platform and experiencing a supply surplus. • Companies creating their own platforms and utilizing Atradius' support without Amazon. • Data privacy issues.	• Amazon taking advantage of Atradius knowledge and information and cutting it off later. • Limited capacity to answer to Amazon's demands. • Increase in SME would increase the risk for Atradius. • Recognizing that the information synergies are not sufficient to cover the lacking information. • Taking use of Atradius' internal data and cutting it off. • Data privacy issues.

Source: Own elaboration (2023)

Based on a comprehensive analysis, it is evident that the partnership between Amazon and Atradius offers a multitude of opportunities that outweigh the potential threats.

It is worth noting that financial services, being highly regulated industries, demonstrate elaborate efforts in the realm of Environmental, Social, and Governance (ESG) practices. Consequently, Amazon stands to benefit from the high commitment of financial services companies to ESG initiatives.

5 ESG PRACTICES IN ATRADIUS AND AMAZON

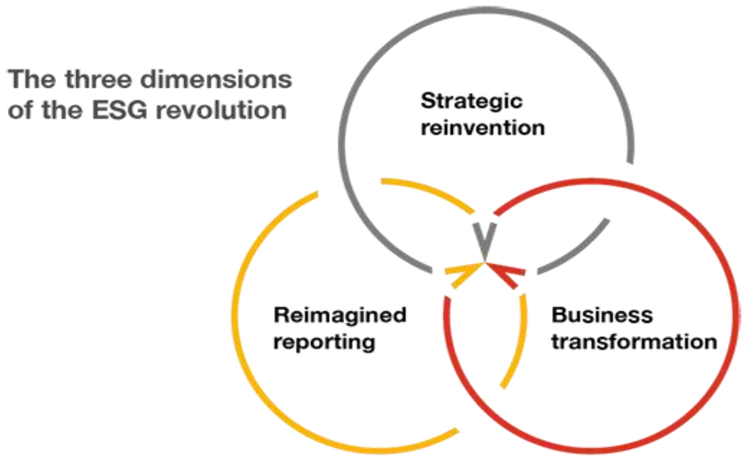
Corporations increasingly recognize the significance of Environmental, Social, and Governance (ESG) factors due to their evident benefits and the growing awareness of the associated risks and opportunities. Research has indicated that companies prioritizing ESG considerations will likely experience sustainable growth, resulting in improved corporate performance and reduced risk exposure (AON, 2021).

ESG consists of non-financial criteria companies use in business practices and value-creation strategies. Its use has expanded notably due to the higher awareness of the importance of sustainability for all stakeholders. Moreover, ESG criteria were initially a value-adding framework and a way to obtain a better corporate image, which still is the case in specific industries and countries. However, increasing regulations force companies to transform their supply chain models and supplier selections.

The ESG's rigorous environmental criteria address critical issues such as climate change, resource scarcity, water conservation, and biodiversity preservation. The social standards emphasize the importance of ensuring the well-being of employees, promoting diversity and inclusion, and providing fair and adequate compensation. Regarding governance, ESG strongly emphasizes risk and reputation management, compliance with laws and regulations, anti-corruption measures, and effective governance practices that promote transparency and accountability. By adhering to these comprehensive criteria, organizations can demonstrate their commitment to sustainable practices and ethical business conduct.

Three interdependent dimensions of the ESG agenda can be identified: strategic reinvention, reimagined reporting, and business transformation (Pwc, n.d). Strategic reinvention requires companies to reconsider their basic strategic questions to make progress against new metrics. Reimagined reporting is indispensable to companies as it helps transparently manage and disclose ESG risks. Similarly, business transformation is crucial for companies to achieve ESG objectives and drive change effectively. Senior leaders are expected to be pivotal in spearheading the ESG agenda. Ultimately, companies that adopt ESG practices are better positioned to create value by finding solutions to society's pressing challenges (Pwc, n.d).

Figure 19 Three dimensions of the ESG Revolution



Source: Pwc (n.d)

Recognizing the ESG framework plays a critical role in today's business landscape. Credit insurers play a crucial role due to their strong influence as underwriters and partners enabling trade (Pwc, 2021). In 2021, Grupo Catalana ranked 12th out of 300 insurance companies in research conducted by Sustainalytics (Atradius, 2023). Atradius is committed to continuously improving and developing its ESG practices. This focus on sustainability aligns with increasing regulatory pressures, market competitiveness, and a desire to operate ethically and socially responsibly. For instance, ESG scores have been integrated by the most critical rating agencies (S&P, Moody's, AM Best), adding additional pressure to perform well on ESG matters. In 2022, Atradius was rated "Low Risk" (Grupo Catalana, 2022). In support of the ESG criteria, the company has a worldwide ESG Committee with global representatives.

Some of the strategic considerations of Atradius regarding sustainability include creating a smooth exit strategy from polluting industries. Together with building strong underwriting and commercial expertise in emerging clean industries, which with time, are going to replace polluting industries. Moreover, integrating ESG performance into country, buyer, and customer underwriting addresses the demand for big international brokers, reinsurers, banks, and rating agencies. Similarly, in cases where the trade is deemed non-sustainable, credit insurance providers may opt to raise the insurance price or even refuse to provide coverage to the client (Expert Interview, 2023).

Regarding social matters, Atradius is advanced with a significant focus on the well-being of the employees (WFH, Growth Programme). Similarly, the company offers a hybrid work model and has reduced business travel, which has fewer adverse environmental impacts. To continue, the company is considering strengthening human resources as a strategic function and improving the data-driven understanding of HR metrics to benefit both the people and the company.

Furthermore, the rising prominence of ESG trends presents credit insurers with prospects to expand their operations in green industries, including renewable energy, electric vehicles, battery storage, and energy distribution. In the same vein, financial institutions increasingly demand credit insurance to support the growth of sustainable finance. Additionally, circular, sharing, and local economies have opened novel avenues for businesses to thrive while promoting sustainable supply chains globally.

Amazon is also making efforts to perform well on ESG criteria. The company counts on global sustainability efforts related to nature conservancy, equal gender rights, renewable energy, clean water, and electric vehicles (Amazon, 2021). For instance, Amazon is the most significant global corporate purchaser of renewable energy and has set an ambitious goal of powering all its operations using renewable energy by 2025. This is particularly significant, given that trade is not typically eco-friendly. To achieve this goal, Amazon is implementing various measures such as decarbonizing transportation, enhancing packaging and waste management, improving product sustainability, and reducing its carbon footprint.

Moreover, Amazon is actively working to improve its social impact by prioritizing diversity and increasing female representation in its workforce. These efforts to create a more inclusive workplace align with the company's core values and demonstrate its commitment to driving positive social change.

Atradius can assist Amazon in identifying risks associated with environmental and social issues. Despite Amazon's ongoing efforts, the company maintains a BBB ranking by central agencies, which presents an opportunity for the company to leverage Atradius' more advanced efforts. Additionally, Atradius can facilitate funding for more environmentally focused industries, aligning with their current transition efforts.

6 CONCLUSION

The present research aimed to examine the potential collaboration between financial services and e-commerce ecosystems in the context of B2B trade, using Atradius and Amazon as a case study. The initial objectives of the study involved gaining insights into the existing landscape of credit insurance and B2B e-commerce, as well as evaluating the current challenges and future growth prospects associated with these domains. Additionally, the central objective was to explore the opportunities arising from a potential collaboration, specifically fostering new businesses, providing funding support, mitigating risks, and facilitating data sharing. This research shed light on the potential benefits and challenges associated with the synergy between financial services and e-commerce platforms in B2B trade by delving into these areas.

The B2B e-commerce sector is currently witnessing significant expansion. Nevertheless, Amazon faces numerous challenges in establishing a foothold in this market, primarily stemming from funding limitations that disproportionately impact small and medium-sized enterprises (SMEs). Additionally, Amazon is actively pursuing entry into larger enterprise-sized companies, driven by their heightened stability and substantial purchasing volume. Moreover, there has been a marked increase in the prevalence of bad debt, comprising fraud, credit risks, and a rising number of non-payment incidents. In response to these challenges, Amazon has strategically collaborated with financial services firms, leveraging these partnerships to mitigate financial risks and facilitate additional lending opportunities.

Conversely, Atradius encounters obstacles when attempting to engage with SMEs, primarily attributable to their limited market penetration, exacerbating their lack of underwriting experience. Furthermore, more comprehensive trading data is needed to ensure credit insurers' ability to assess payment behavior patterns accurately.

A strategic partnership between the two companies holds immense potential for mutual benefits, particularly in venturing into new business avenues and generating additional revenue streams. Additionally, the strong relationship between credit insurers and banks could contribute to narrowing the widening trade finance gap through trade finance solutions.

Moreover, risk mitigation is an appealing aspect of this collaboration, as it would enable both entities to enhance their risk management practices. E-commerce would particularly benefit from insurance solutions on non-payments and bad debt. Furthermore, a collaborative effort would enhance the comprehension of risks by amalgamating their respective datasets, leading to the developing of a more robust risk-scoring system.

Lastly, the data exchange between the two entities would facilitate increased information sharing, provide greater visibility into a diverse range of transactions, and enhance understanding of companies' payment profiles. Credit insurers, in particular, would benefit from access to positive trading data, further strengthening their risk algorithms and accuracy in key financial metrics.

Given the exploratory nature of this thesis, it is crucial to acknowledge several potential limitations. These include the difficulty in quantifying the benefits and losses of the opportunity. More detailed financial information and insights into potential customer bases are required to address this. Alternatively, employing a statistical approach could provide a means for approximation.

For future research, it is recommended to conduct an in-depth analysis in search to quantify the specific opportunities that arise for credit insurers in their risk algorithms in combining with positive trading data and its effects for further use within the sphere.

In conclusion, the union of financial services and e-commerce emerges as a dynamic force with tremendous prospects for revolutionizing B2B trade and propelling the advancement of both industries. This study compellingly demonstrates the transformative power of this partnership, leaving no doubt that the resounding recommendation is to embrace and accelerate this synergistic alliance.

7 BIBLIOGRAPHY

Expert Interviews:

André Düesing – Head of Strategy and Product Atradius - Amsterdam

Jose Manuel Benedí Albelda – Senior Corporate Strategy Analyst Atradius - Spain

Arja Fagerström – Head of Global Atradius - Finland

Amazon Statistics (2023). (2023, January 9). *Business of Apps*. https://www.businessofapps.com/data/amazon-statistics/

AON. (2021). *Aon's Guide to ESG Investing*. AON Solutions. https://www.aon.com/getmedia/d74e7aa1-8180-4b0d-abaa-3a0689bd7e8f/Aon-Benefits-of-ESG-Integration-March-2020.aspx

Atradius. (2022, February 23). *How to use AI for credit management*. https://publications.atradiuscollections.com/debt-collection-podcast/

AU Group. (2022). *Credit Insurance Market Survey 2022*. https://www.au-group.com/etudes/credit-insurance-market-survey-2022/

Atanasova, S., Lechardoy, L., Hausemer, P. (2020). European Commission, Directorate-General for Financial Stability, Financial Services and Capital Markets Union. Study on supply chain finance: final report, Publications Office. https://data.europa.eu/doi/10.2874/815796

Bank for International Settlements [BIS]. (n.d.). *Basel III: International regulatory framework for banks*. https://www.bis.org/bcbs/basel3.html

Boston Consulting Group & International Chamber of Commerce. (2019). *Digital Ecosystems in Trade Finance: Seeing Beyond the Technology*. https://web-assets.bcg.com/img-src/BCG_Digital_Ecosystems_in_Trade_Finance_tcm9-229964.pdf

Brand Finance. (2023, March). US500

2023. https://static.brandirectory.com/reports/brand-finance-us-500-2023-preview.pdf

Catalana Occidente Grupo Asegurador. (2022). *Sustainability Report - Non-Financial Information Statement.* https://www.grupocatalanaoccidente.com/eng/non-financial-information/reports

CB Insights. (2021, April 28). *The Big Tech In Lending Report: How Amazon, Facebook, Google, & Apple Are Battling For The $3T+ Market.* CB Insights Research. https://www.cbinsights.com/research/report/big-tech-in-lending/

CB Insights. (2022, November 30). *Everything you need to know about what Amazon is doing in financial services*. CB Insights

Research. https://www.cbinsights.com/research/report/amazon-across-financial-services-fintech/

Chevalier, S. (2022). *Global retail e-commerce sales 2014-2025*. Statista. https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/

Connolly, B. (2023). *The Top Amazon Product Categories in 2023.* Jungle Scout. https://www.junglescout.com/blog/amazon-product-categories/

Coppola, D. (2023, 15 marzo). *Value of products sold on Amazon Business in the United States from 2019 to 2025.* Statista. https://www.statista.com/statistics/1020969/amazon-business-products-sales-united-states/

Curry, D. (2023, May 17). *Amazon Statistics (2023) - Business of Apps*. Business of Apps. https://www.businessofapps.com/data/amazon-statistics/

Financier Worldwide. (n.d). *Credit insurance, Basel III and COVID-19.* Financier Worldwide. https://www.financierworldwide.com/credit-insurance-basel-iii-and-covid-19#.ZCiBpi8Rr_Q

European Central Bank. (2022, December 5). *Authorizations. European Central Bank – Banking Supervision.* https://www.bankingsupervision.europa.eu/banking/tasks/authorisation/html/index.en.html#licensingbanks

European Central Bank. (2023, February 2). *Official interest rates.* https://www.ecb.europa.eu/stats/policy_and_exchange_rates/key_ecb_interest_rates/html/index.en.html

Goldberg, M. (2023, January 30). *The 15 largest banks in the US. Bankrate.* https://www.bankrate.com/banking/biggest-banks-in-america/

Grand View Research. (n.d.). *Business-to-Business E-commerce Market Size, Share & Trends Analysis Report, By Deployment Type (Intermediary-oriented, Supplier-oriented), By Application, By Region, And Segment Forecasts, 2023 - 2030.* https://www.grandviewresearch.com/industry-analysis/business-to-business-b2b-e-commerce-market

Grand View Research. (n.d.). Trade Credit Insurance Market Size, Share & Trends Analysis Report By Enterprise Size (Large, SMEs), By Coverage (Whole Turnover, Single Buyer), By Application, By End-user (Energy, F&B), By Region, And Segment Forecasts, 2022 - 2030. https://www.grandviewresearch.com/industry-analysis/trade-credit-insurance-market-report

Hamilton, K. (2023, April 13). Amazon Launches AI Platform Aimed at Corporate Customers—Joining Google and Microsoft In AI Race. *Forbes*. https://www.forbes.com/sites/katherinehamilton/2023/04/13/amazon-launches-ai-platform-aimed-at-corporate-customers-joining-google-and-microsoft-in-ai-race/?sh=51f7f991483d

Haselton, T. (2021, February 3). Jeff Bezos to step down as Amazon CEO, Andy Jassy to take over in Q3. CNBC. https://www.cnbc.com/2021/02/02/jeff-bezos-to-step-down-as-amazon-ceo-andy-jassy-to-take-over-in-q3.html

Atradius Group (n.d.). *History*. Atradius. https://group.atradius.com/about-us/history.html

Jassy, A. (2021). *Annual Report*. Amazon.com, Inc. https://s2.q4cdn.com/299287126/files/doc_financials/2022/ar/Amazon-2021-Annual-Report.pdf

Imarc Group. (n.d.). *B2C E-commerce Market Share, Size, Growth, Report 2023-2028*. https://www.imarcgroup.com/b2c-e-commerce-market

Jus, M. (2013). *Credit Insurance*. Academic Press Elsevier.

Kim, E. (2023, January 4). *Leaked documents show Amazon's seller lending business is booming. However, the company's economists are worried about defaulters.* Business Insider. https://www.businessinsider.com/amazon-seller-lending-program-growing-recession-fears-2023-1

Kim, K., Beck, S., Latoja, M. C., & Tayag, M. C. (2021). 2021 *Trade Finance Gaps, Growth, and Jobs Survey*. ADB Briefs. https://doi.org/10.22617/brf210379-2

Lendistry. (2022, November 30). *Amazon Community Lending*. Lendistry. https://lendistry.com/amazon-community-lending/

Mileva, G. (2022, November 23). *Amazing Amazon Statistics You Need to Know to Amplify Growth in 2023*. Influencer Marketing Hub. https://influencermarketinghub.com/amazon-statistics/

Min, S. (2022, April 29). *Analysts are mostly confident Amazon can work through inflationary pressures; JPMorgan says, "Buy the pullback."* CNBC. https://www.cnbc.com/2022/04/29/analysts-are-mostly-confident-amazon-can-work-through-inflationary-pressures-jpmorgan-says-buy-the-pullback.html

Office of the Comptroller of the Currency [OCC]. (n.d.). *Charters & Licensing Overview*. Office of the Comptroller of the Currency. https://www.occ.gov/topics/charters-and-licensing/index-charters-licensing.html

Pesotska, L. (2023, February 9). *How To Build a Successful eCommerce Ecosystem & Partnerships*. GEPARD. https://gepard.io/ecommerce-strategy/ecommerce-ecosystem-and-partnerships

Price Waterhouse Coopers [PwC]. (2021). *Next in Insurance. In Top insurance industry issues in 2022.* https://www.pwc.com/us/en/industries/insurance/library/assets/next-in-insurance-overview-01-04-22.pdf

PricewaterhouseCoopers (n.d.). *The ESG movement: Are you ready for the ESG revolution?* PwC. https://www.pwc.com.au/environment-social-governance/esg-revolution.html?utm_source=Foleon&utm_medium=debtcollectionpodcast&utm_campaign=covid19_2020

Randow, J. (2023, January 10). *Euro-zone economic outlook: Goldman No Longer Sees Euro-Area Recession as It Lifts Outlook*. Bloomberg. https://www.bloomberg.com/news/articles/2023-01-10/goldman-no-longer-sees-euro-area-recession-as-it-lifts-outlook#xj4y7vzkg

Sengupta, J., & HV, V. (2019). How the best companies create value from their Ecosystems (M. Dietz, V. Chung, X. Ji, L. Xiao, & L. Li, Eds.). McKinsey & Company. https://www.mckinsey.com/~/media/mckinsey/industries/financial%20services/our%20insights/how%20the%20best%20companies%20create%20value%20from%20their%20ecosystems/how-the-best-companies-create-value-from-their-ecosystems-final.pdf

Statista. (2022, December 1). *Trade finance gap worldwide 2014-2020, with a forecast of 2021/2022*. https://www.statista.com/statistics/1349773/trade-finance-gap-worldwide/

Statista. (2023, February 23). *Leading European banks 2022, by market capitalization.* https://www.statista.com/statistics/382818/leading-banks-in-europe-by-market-capitalization/

Trading Economics. (2003). *United States Fed Funds Rate - 2023 Data - 1971-2022 Historical - 2024 Forecast*. https://tradingeconomics.com/united-states/interest-rate

Talent. (n.d). *Underwriter Salary in USA - Average Salary.* Talent.com. https://www.talent.com/salary?job=underwriter

Wallstreetmojo. (2023, January 10). *B2B vs B2C*. WallStreetMojo. https://www.wallstreetmojo.com/b2b-vs-b2c/

Williams, H. (2022, November 29). *What Is Amazon Business and How Does It Work?* Tech Advisor. https://www.techadvisor.com/article/741604/what-is-amazon-business-and-how-does-it-work.html

World Trade Board & Bankers Association for Finance and Trade [BAFT]. (2023). *Financial Inclusion in Trade Roadmap.* https://www.baft.org/wp-content/uploads/2023/04/Financial-Inclusion-in-Trade-Roadmap-202326.pdf

World Trade Organization [WTO] & International Finance Corporation [IFC]. (2019). *Trade Finance and the Compliance Challenge*. https://www.wto.org/english/res_e/booksp_e/tradefinnace19_e.pdf