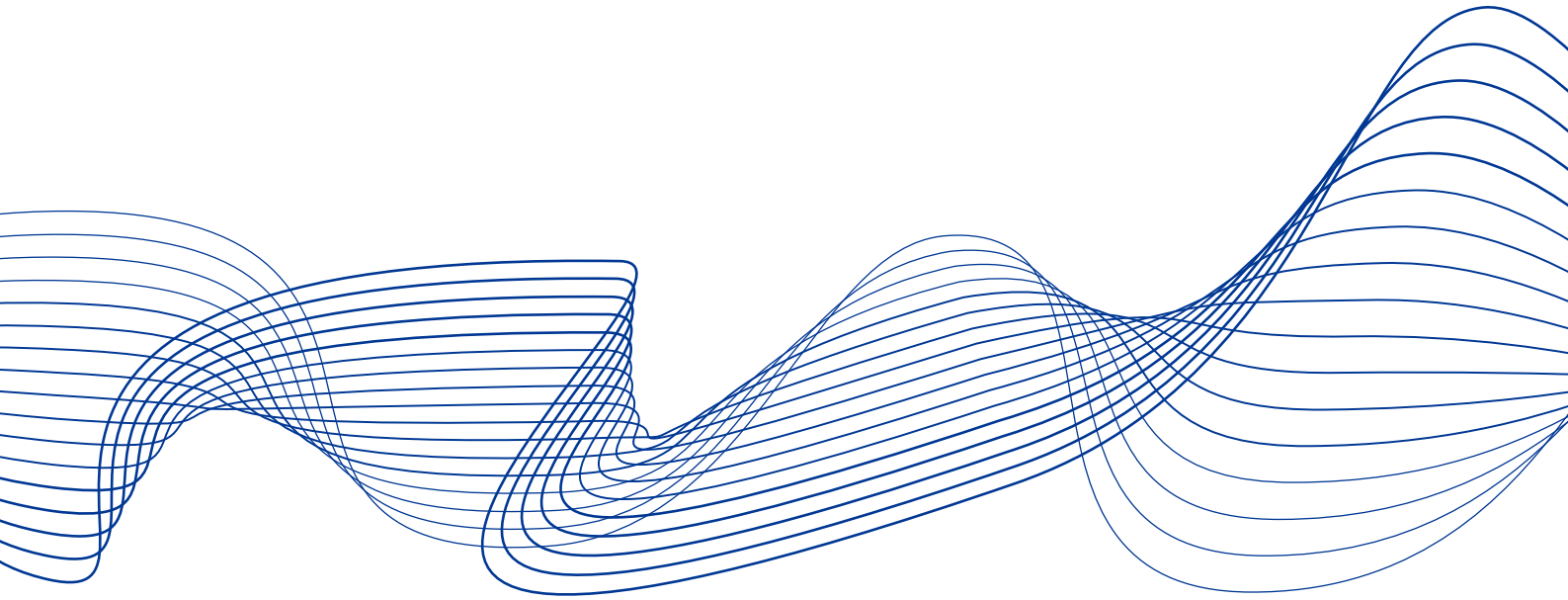
# Issues note on macroprudential aspects of trade credit insurance

August 2022



ESRB
European Systemic Risk Board
European System of Financial Supervision

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# Executive summary

**This issues note sets out the analysis of trade credit insurance (TCI) by the European Systemic Risk Board (ESRB) and identifies avenues for further work on policies to make the TCI market more resilient during times of stress.** The way in which inter-company trade operates means that goods and services are often delivered before payment is received. TCI protects sellers against losses if their buyers do not pay. At the start of the coronavirus (COVID-19) pandemic, the anticipated increase in TCI claims meant that there was a risk that insurers might curtail their exposures and withdraw TCI cover for those buyers deemed to be the most risky. This, in turn, posed a risk to supply chains and of liquidity shortages given that sellers – in the absence of the protection provided by TCI – might ask buyers for advance payments or become exposed to the domino effects of buyers with uninsured trade credit defaulting on their payments. To reduce the uncertainty and negative effects on the real economy, including a reduction in trade, governments across the EU introduced ad hoc state aid schemes to ensure that TCI cover would be maintained.

**The introduction of ad hoc state aid schemes at the start of the COVID-19 pandemic was an indication that governments viewed any discontinuity in TCI as a potential source of systemic risk that could lead to serious disturbance in the economy.** Governments did not step in to support the insurance industry as such. Instead, the motivation behind the state aid schemes was to avoid the amplification of the negative economic effects of the pandemic that would have ensued had there been a sharp contraction in trade if trade credit insurers had withdrawn cover. Empirical research supports the fact that the effect of TCI on trade goes beyond the insured relationship. The introduction of ad hoc state aid schemes to remedy serious disturbances in the economy is therefore indicative of the fact that governments consider the provision of TCI to be critical for the economy. This issues note assesses the systemic relevance of TCI as a business line. This assessment points to the fact that TCI is a critical insurance function and that its sudden failure could have a material impact on the real economy. Two ESRB member institutions – one of which a non-voting member – do not, however, share the view that the provision of TCI is a critical insurance function and could be a source of systemic risk.

**From a financial stability perspective, lack of certainty about if, when and how governments might intervene with ad hoc schemes could harm the economy.** In the absence of any changes in the TCI market and/or a framework for government interventions, it is likely that during future periods of economic stress governments would again feel compelled to intervene in an ad hoc manner to ensure that insurers maintain TCI cover. Such ad hoc interventions are a suboptimal way to maintain TCI cover to remedy serious disturbance in the economy. In particular, anticipation of state aid can result in insurers and policyholders being unprepared. This unpreparedness could, for example, result in less rigorous credit risk assessments and monitoring by policyholders and render their balance sheets more fragile given risky trade credit positions. Consequently, ad hoc state interventions might also provide wrong incentives for insurers and the insured. Beyond financial stability concerns, the use of different types of schemes across EU Member States might also lead to competitive distortion and harm the functioning of the Single Market.

**Avenues for further policy work should focus on reducing the likelihood that governments feel the need for ad hoc intervention in the future.** Those avenues could be organised along two

dimensions: (i) private-sector solutions; and (ii) pre-designed public-sector solutions, albeit that combinations of private and public solutions could also be considered. In principle, such solutions would seem preferable to ad hoc government intervention. In practice, they would need to be carefully designed to avoid any unintended consequences. For example, addressing the risk of moral hazard is key to any type of insurance scheme, be it private, public or a combination thereof. Developing the avenues for policies into proposals requires further analysis, including through engagement with stakeholders, to identify and work through the design challenges. This issues note is intended to stimulate such engagement.

# Introduction

**Trade credit is ubiquitous in international trade and it is essential for financing non-financial corporations (NFCs).** Trade credit is a short-term loan in which sellers of goods and services allow their buyers to pay their invoices after delivery. On the balance sheet, it is an asset for the seller firm (an account receivable) and a liability for the buyer firm (an account payable). Estimates given in van Wersch (2019) suggest that about 80-90% of international trade relies on some form of trade finance[1] and that trade credit accounts for 70-90% of such financing.[2] The Bank for International Settlements (BIS, 2014) arrives at similar estimates, suggesting that one-third of international trade is supported by one or more bank intermediated trade finance products and that two-thirds are financed by inter-firm trade credit.[3] Moreover, trade credit has an essential function for working capital management in absorbing liquidity shocks.[4] In the euro area, trade credit accounts for €3.2 trillion of the liabilities of NFCs. At 18%, it is the second most important single source of euro area NFC financing, after loans (Chart 1). An ECB survey based on 2021 data shows that 28% of euro area small and medium-sized enterprises (SMEs) see trade credit as a relevant source of financing.[5]

1 See the "**Work with other organizations - Trade finance**" page on the World Trade Organisation's website.

2 See van Wersch, C.L. (2019), "**Statistical Coverage of Trade Finance – Fintechs and Supply Chain Financing**", *IMF working papers*, International Monetary Fund, Washington, 31 July.

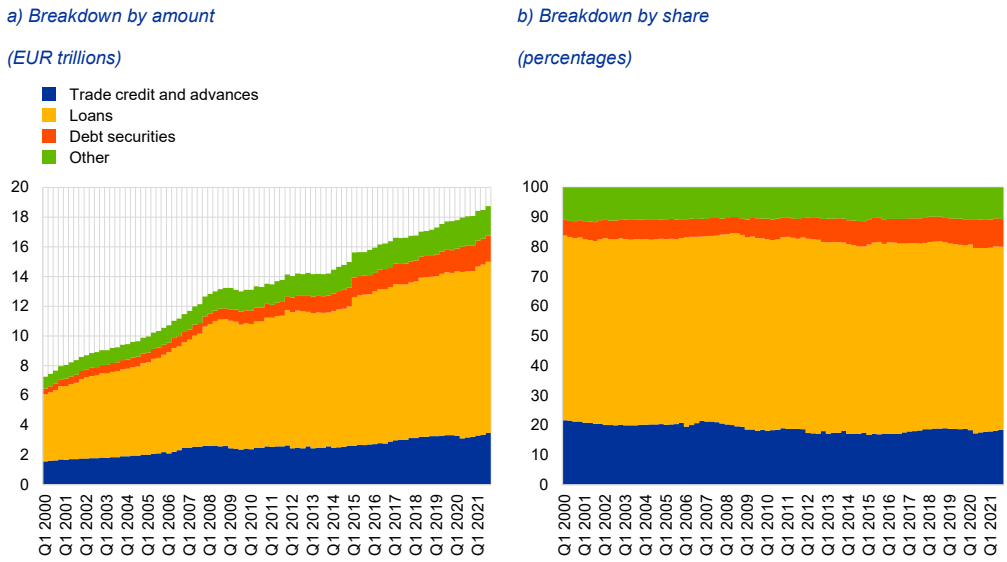
3 See Committee on the Global Financial System (2014), "**Trade finance: developments and issues**", *CGFS Papers*, No 50, Bank for International Settlements, Basel, January.

4 Trade credit positions are adjusted by affected firms in response to an exogeneous liquidity shock. See Amberg, N., Jacobson, T., Von Schedvin, E. and Townsend, R. (2021), "**Curbing shocks to corporate liquidity: The role of trade credit**". *Journal of Political Economy*, **Vol. 129, No 1**, January, pp. 182-242. On the role of trade credit in the GFC, see Coulibaly, B., Sapriza, H. and Zlate, A. (2013), "**Financial frictions, trade credit, and the 2008-09 global financial crisis**", *International Review of Economics and Finance*, Vol. 26, pp. 25-38.

5 See the "**25th round of the Survey on the Access to Finance of Enterprises (SAFE) in the euro area**" page on the ECB's website.

Chart 1

**Liabilities of euro area non-financial corporations**




*Source: ECB, own calculations.*
*Note: The "other" category is computed as financial liabilities (F) minus equity (F5) minus loans (F4) minus debt securities (F3) minus trade credit and advances (F 81) and includes pension liabilities, finanancial derivatives and employee stock options and other accounts payables.*

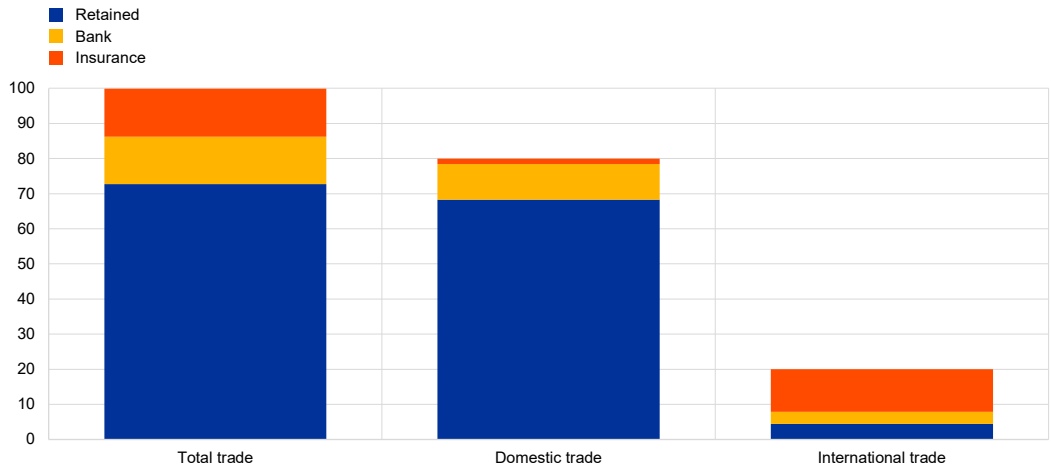
**TCI covers 60% of the risk of international trade credit.**[6] When sellers provide trade credit, they incur the risk that buyers will not pay their invoices. There are, in general, three alternative ways in which firms can deal with this credit risk. First, sellers can avoid any trade credit risk by requiring advance payment. Second, sellers can bear the trade credit risk. Third, they can seek cover for trade credit risk. Based on estimates of market shares by Boissay et al. (2020), there are material differences between international and domestic trade. In international trade, insurers cover 60% of trade credit risk, banks cover 20% and sellers retain 20% of the risk. By contrast, for domestic trade, sellers retain 85% of the risk (Chart 2). It is likely that the greater relevance of TCI for international trade reflects a different monitoring capacity and a reduced ability to recover repayments.

[6] Boissay, F. et al. (2020), "**Trade credit, trade finance, and the Covid-19 Crisis**", *BIS Bulletin*, No 24, Bank for International Settlements, Basel, 19 June.

Chart 2

**Ultimate risk exposure to trade credit in terms of total trade receivables**

*(percentages)*




*Sources: Boissay, Patel and Shin (2020) and sources therein*
*Notes: The columns for international and domestic trade together amount to 100. As some of the banks' risk exposure to trade receivables is passed on to insurers; the graph shows risk exposures ultimately born by banks and insurers.*

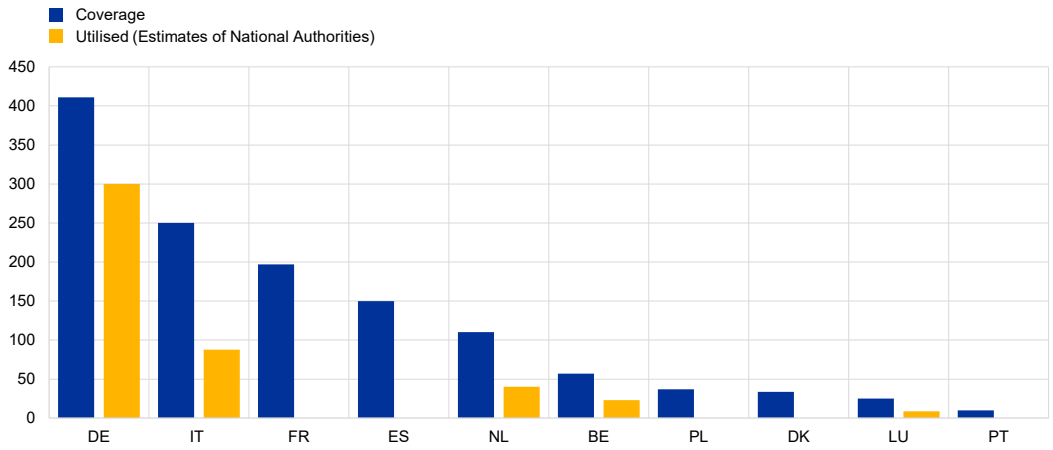
**In 2020 global trade credit risk covered by insurers amounted to around €2.4 trillion,** based on information collected from insurers.[7] This represented a potential loss to trade firms from credit defaults and transferred from the non-financial sector to the insurance sector. The risk coverage actually utilised by firms, was, however, lower than the risk cover granted. Insurance policies provide policyholders with a ceiling on the amount of trade credit covered. This limit on cover gives policyholders flexibility with regard to future trade as policyholders can increase trade without adapting the insurance contract. The overall estimated usage of cover limits in EU member countries was around 40% (see also Chart 3).

[7] Estimate provided by ICISA (2020), "**Trade Credit Insurance - Insured Exposure for ICISA Members**", International Credit Insurance & Surety Association, Amsterdam.

Chart 3

**Utilisation of TCI cover**

*(EUR billions, Q4 2019)*




*Source: Calculations based on information provided in the **European Commission Competition Policy Case Database**.*
*Notes: The state aid case numbers for TCI in the database are SA.57188 (BE); SA.56941 (DE); SA.57112 (DK); SA.58458 (ES); SA.56903 (FR); SA.57937 (IT); SA.57708 (LU); SA.57095 (NL); SA.59800 (PL); and SA.58082 (PT). Data for cover and – where available – estimates for utilisation of cover were provided by national authorities. Estimates for utilisation of cover were provided as ranges. The chart depicts the mid-point of these ranges. The data refers to Q4 2019 except for PL which refers to Q4 2020, and for PT which refers to Q3 2020.*

**EU Member States exported goods outside the EU worth €2.1 trillion[8] in 2019, whereas at the end of 2019 European insurers had a maximum trade credit exposure of €1.3 trillion, with around €0.5 trillion utilised.** Data on the trade credit exposure of European insurers can be matched with information on euro area NFC balance sheets, and the €0.5 trillion utilised TCI exposure can be compared against the €3.2 trillion in trade credit. This implies that for approximately 15% of all NFC trade credit, the credit risk is held by the insurance sector.

The remainder of this issues note is structured as follows. Section 2 describes the economics of TCI and its market structure. It provides background and evidence for the relevance of TCI and sets out how its withdrawal could lead to market disruption in times of stress. Section 3 uses a framework developed by the European Insurance and Occupational Pensions Authority (EIOPA) to assess features of this insurance sector business line against the criteria for a critical function, a concept for the systemic relevance. The final section sets out avenues for policy work.

8 See "**Extra-EU trade by partner**" on EUROSTAT's website.

# 1 Economics of TCI and market structure

## 1.1 Main characteristics

**TCI covers companies against trade credit risk, which is the risk that their buyers do not pay their invoices.**[9] TCI covers several forms of non-payment, such as insolvency, events comparable to insolvency and protracted default (failure to pay within a pre-defined period). Other reasons, such as non-payment due to a dispute or to the insured's failure to perform the contract are excluded. A TCI contract would typically cover multiple transactions with the same or with multiple buyers. TCI cover either takes the form of "ground-up cover" or "excess of loss cover". Ground-up cover covers total losses (80-90% of non-payment from the first euro) and is prevalent in the EU. Excess of loss cover covers losses that exceed a specified threshold.[10]

**The benefits of TCI include lower credit risk, sales support and facilitated financing.** TCI smoothes sellers' expenses on credit risk (regular insurance premiums instead of irregular credit default expenses). This gives sellers the leeway to grant more generous payment terms to buyers. Likewise, a reduction in credit risk facilitates growth and international expansion because it reduces the embedded financial risks. Moreover, TCI facilitates the access of sellers to bank financing given that banks are more willing to grant loans to sellers when they use TCI. Furthermore, TCI facilitates business relationships because it makes it possible to win new customers without a stringent focus on creditworthiness. Finally, the seller has the benefit of additional services, such as debt collection.

**SMEs use TCI less often than large enterprises**.[11] The reasons for this include the costs, reporting and risk-management practices required by insurers, which are more expensive for smaller firms.

**TCI cover is available for non-payment due to the materialisation of commercial or political risk.** Commercial risk is associated with the buyer's ability to pay for goods or services delivered. In contrast, political risk relates to the buyer's country and includes losses arising from political events that either limit or interfere with a transaction. Domestic trade mainly involves commercial risk, while export trade involves both commercial and political risk. Until the 1970s, political risk was borne almost exclusively by the public sector (Export Credit Agencies or ECAs)[12] and TCI first became popular in Europe as a supplement to ECA cover. The major trade credit insurers are European companies whose history is linked to government ECAs. Today, trade credit insurers

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9 Where no other reference is provided, this section is based on the book by the ICISA (2015), "**A Guide for Trade Credit Insurance**", a presentation of ICISA to the ESRB Insurance Expert Group, discussions with experts, and van der Veer, K.J.M. (2011), "Private Trade Credit Insurers during the crisis: the invisible banks" in Chauffour, J.P. and Malouche, M., **"Trade Finance during the Great Trade Collapse"**, World Bank.

10 See "**What is excess of loss insurance**?" on Allianz Trade's website.

11 See Riestra, A. (2003), "**Credit Insurance in Europe – Impact, Measurement and Policy Recommendations**", *CEPS research report*, Centre for European Policy Studies, Brussels, February.

12 See NAIC (2021), "**Political Risk Insurance**", National Association of Insurance Commissioners webpage.

may offer both commercial and political risk cover, generally in a combined policy where it relates to exports.

**TCI typically takes the form of "whole turnover policies" which cover the entire business-to-business (B2B) turnover of the policyholder.** This means that one insurance policy typically covers the credit risk of a seller for numerous transactions with several, typically large, buyers. This is the most common TCI policy.[13] Whole turnover policies are designed to mitigate the risks of an adverse selection of riskier buyers. There are also policies that cover selected turnover or individual buyers. With a large number of buyers covered, continuous credit risk assessment is a key resource and an IT-intensive exercise for insurers offering TCI cover.

**Insured credit risk can be broken down into a firm-specific and a systematic component.** Firm-specific risk can be diversified given that insurers may cover the credit risk of a large pool of firms. Systematic credit risk means that the risk of non-payment across firms depends on common factors, such as economic or geopolitical developments.

**To manage their risk, trade credit insurers may withdraw cover at short notice.** TCI contracts usually have annual terms. For this term, the TCI price is fixed, but the insurer can withdraw a seller's cover for transactions with single or multiple buyers at any time for future deliveries. At the same time, the overall TCI contract between the insurer and the seller remains intact. Depending on the contract type, this withdrawal may take effect immediately or following a grace period during which new deliveries are still covered. The risk of withdrawal incentivises the seller to act responsibly and conduct a sound credit analysis of the relationship with buyers. It mitigates moral hazard, the possibility that sellers relax their credit risk assessment of buyers during the policy term. Insurers may also use the withdrawal option to manage systematic credit risk so that they quickly respond to adverse developments, for instance in a cyclical downswing, by reducing the cover provided to those buyers deemed to be the most risky if a general increase in claims is anticipated.

**There is an alternative non-cancellable TCI policy, which covers all trade with certain buyers over a specified period.** However, this alternative is less common. Non-cancellable policies provide the certainty that the insurer will not be able to withdraw cover during the term of the policy. There are two disadvantages with non-cancellable policies. First, they increase moral hazard given that sellers may not monitor buyers, or may continue shipping even when the buyer's creditworthiness deteriorates, and the insurer is unable to react.[14] Second, they are more expensive because insurers need to price in the risk that they might be locked into a contract during times of economic crisis when there is a general increase in claims.

**The TCI market is concentrated with three European insurers that together had a global market share in 2020 of over 60%.**[15] Large IT investments are necessary to assess and price the credit risks of a large number of buyers in numerous countries and sectors in an automated and timely manner. Insurers collect proprietary data about buyers, past trades and claims. This provides

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13 Insurers do not disclose shares of product types. See, for example Swiss Re (2014),– "**Trade credit insurance & surety - taking stock after financial the crisis**", Economic Research and Consulting, October.

14 Yang, S. A., Bakshi, N. and Chen, C. J. (2021), "**Trade Credit Insurance: Operational Value and Contract Choice**". Management Science, Vol, 67, No 2, 26 April, pp. 875-891.

15 Market shares refer to gross written premiums; see Coface (2022), **Universal Registration Document**, p. 25.

them with a broad range of data to estimate the loss probabilities to be priced into TCI policies. The resources needed to acquire and manage the data are a barrier to market entry and might be a reason why the TCI market is concentrated among few insurers: Allianz Trade (formerly Euler Hermes, a subsidiary of Allianz), Atradius (a subsidiary of Grupo Catalana Occidente) and Coface (Arch Capital Group being the main shareholder and more than 70% being free float), which had estimated market shares of 27%, 19% and 15% at the end of 2020. These three companies have dominated the European TCI market for the past 20 years, a wave of mergers and acquisitions having led to the high level of concentration seen today.[16] This market concentration may contribute to the procyclical cover described below given that policyholders have few alternatives if their current insurer withdraws cover.

## 1.2 Relevance

**TCI is relevant for trade in cyclical, export-oriented and capital-intensive sectors.** While there is a broad and diversified range of customer industries, some sectors rely more on TCI than others.[17] Typical industries with high TCI reliance are manufacturers of inputs used in production processes such as metals, agricultural products, machinery and electronics. Chart 4 illustrates the sector exposure of the three largest trade credit insurers based on their public financial reports.

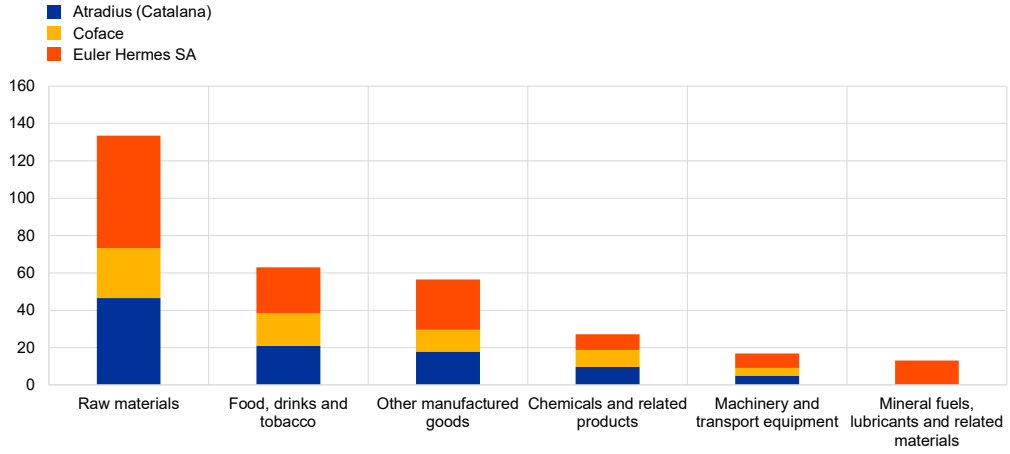
[16] See, for example, the Article 6(1)(b) merger procedure decision in **Case No. COMP/M.2602 - GERLING / NCM**, European Commission, Brussels, 11 December 2001, and the Article 6(1)(b) merger procedure decision in **Case No. IV/M.1082 - Allianz/AGF**, European Commission, 8 May 1998.

[17] Customer split provided in insurers' reporting, for example Atradius NV (2020), **2020 annual report**, p. 86; Coface (2021a), "**H1-2021 results - Presentation to financial analysts**"; and Euler Hermes (2020b), **2019 consolidated financial statements**, p. 75.

Chart 4

**Sector total potential exposure of the three largest European trade credit insurers to total EU exports in 2019**

*(percentages)*




*Sources: Atradius, Coface, and Euler Hermes SA consolidated financial reports, Eurostat, Standard International Trade Classification (SITC) and own analysis.*
*Notes: As the sector classification is not standardised across insurers it is based on a judgemental matching approach using the* ***Standard International Trade Classification (SITC), Revision 4 (2006).*** *"Raw materials" comprises metals and commodities, "Food, drinks and tobacco" comprises food and agriculture, "Other manufactured goods" comprises consumer durables, construction, construction materials, electrical equipment, textiles, paper, computer and telecoms, electronics, retail and household equipment. " Chemicals and related products" comprises chemicals, minerals and pharmaceuticals. "Machinery and transport equipment" comprises transport, machines, cars, mechanical, automotive manufacturers and automotive suppliers. "Mineral fuels, lubricants and related materials" comprises energy.*

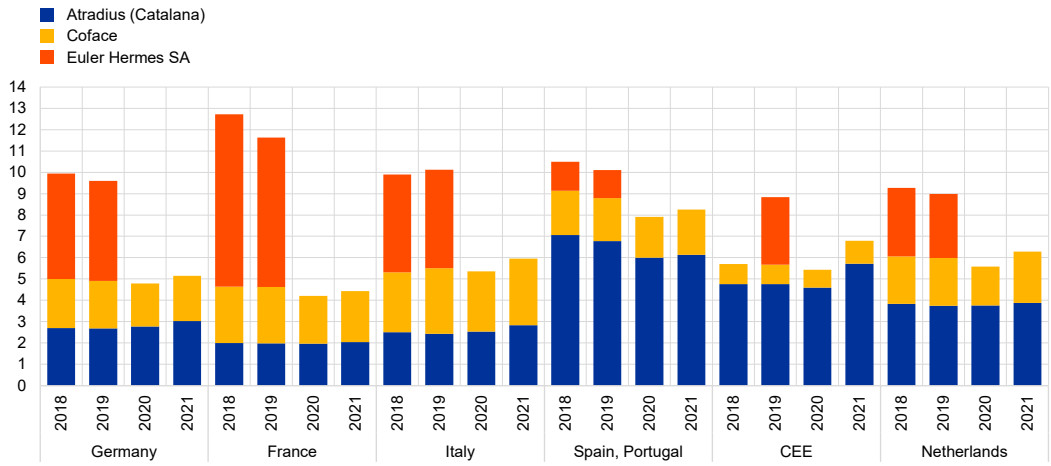
**TCI is widely used in the EU, with France, Italy and Germany being the largest markets.** TCI exposure data by country is included in the financial reporting of insurers. In terms of exposure to the buyer countries, Germany and France together are estimated to cover 30% of the global market, Spain, Italy and the Netherlands comprise an additional 18% and the United States only about 10%.[18] There appear to be several reasons for this: the long history of TCI in Europe, supplemented by the fact that banks in the United States are more actively involved in selling letters of credit, a competing product. Chart 5 displays the country exposure derived from insurers' financial reporting.

[18] Morgan Stanley (2020), "(Trade) Credit where credit's due".

Chart 5

**Country total potential exposure of the three largest European trade credit insurers to GDP**

*(percentages)*




*Sources: Atradius, Coface, and Euler Hermes SA consolidated annual financial reports, Eurostat and own analysis.*
*Note: Data for Euler Herrmes SA- is not available for 2020 and 2021. Total potential exposure for Spain, Portugal for Coface and Euler Hermes SA is for ES only, for CEE for Coface for PL only.*

## 1.3 Procyclicality

**TCI claims relating to late payments and defaults significantly increase during recessions.** For example, ICISA data shows that TCI claims increased sharply during the recession of the early 1990s, as well as during the recessions in the aftermath of the burst of the internet bubble in 2000 and the global financial crisis (GFC) in 2008 (Chart 6).[19] Extensive government measures to support companies helped to prevent insolvencies and also helped to prevent an increase in TCI claims in the wake of the COVID-19 pandemic. Contrary to expectations, insolvencies in Europe fell in 2020 compared with the previous year.[20]

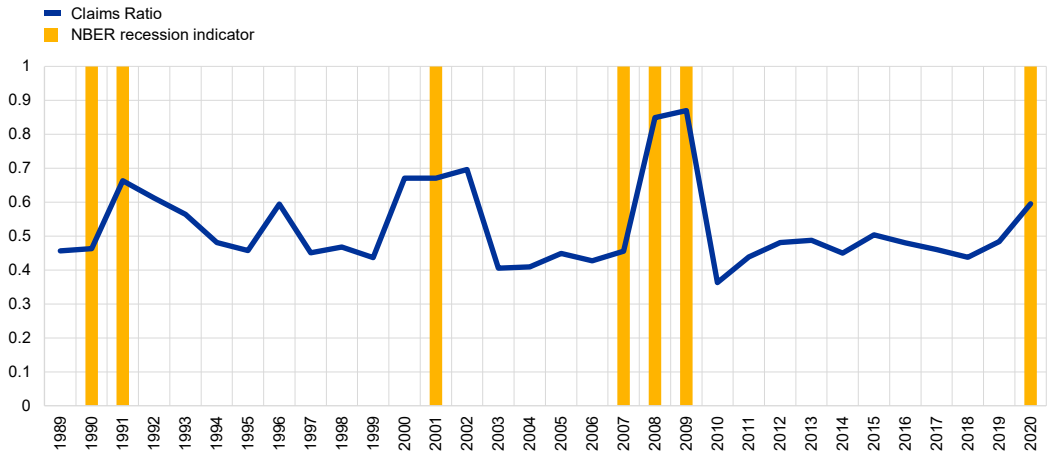
[19] Empirical analysis of this data suggests a strong correlation between TCI loss ratios and global GDP growth in the following year. See SCOR (2021), "**Trade Credit (Re-)insurance during the COVID-19 crisis**", *P&C Technical Newsletter*, No 58, 16 December.

[20] ESRB (2021), "**Prevention and management of a large number of corporate insolvencies**", European Systemic Risk Board, Frankfurt am Main, April. On expectations of increasing insolvencies see, for instance, JP Morgan Cazenove - European Credit Insurance, 14 Aug 2020, and Euler Hermes (2020a), "**Calm before the storm: Covid-19 and the business insolvency time bomb**", *Research Report*, 16 July.

Chart 6

**Ratio of TCI claims to premiums**

*(ratio)*




*Sources: ICISA and Federal Reserve Bank St. Louis.*
*Note: Claims are shown relative to premiums received to remove the increasing business volume trend from the time series. The binary NBER recession indicator is for the United States. If there is a recession in one or more quarters in a year the recession indicator in the chart takes the value of one.*

**A significant increase in TCI claims in the event of a crisis impedes insurers' ability to diversify their risks.** The diversification of risk through pooling is fundamental to the concept of insurance and any impediments to pooling could make certain risks less insurable (see Box 1). Risk diversification through pooling relies on the insured risk to be largely idiosyncratic so that it does not materialise across all (or a large part) of the insured risks at the same time. When the economy is growing, late payments and defaults on trade credit are largely idiosyncratic. This means that the premium income from other TCI policies where no claims materialise offsets the costs to the insurer of meeting claims. However, when the economy contracts, the significant increase in TCI claims due to a systematic increase in late payments and defaults impedes risk diversification. This will be the case in particular when an economic contraction is synchronised across countries, as was the case during the GFC and the COVID-19 pandemic, thereby also rendering risk pooling across countries less effective.

**Impediments to diversification of systematic risk incentivise insurers to reduce TCI cover in a procyclical manner when they anticipate an economic crisis that might result in a significant increase in claims.** While insurers need to maintain long-term relationships with their policyholders, the increase in claims during a crisis provides an incentive to withdraw cover vigorously.[21] This means that cover for selected buyers in whole turnover policies would be withdrawn, while the overall contracts with sellers would remain intact. During normal times, the ability to withdraw cover may enable insurers to offer more attractive premiums, but risks leaving

[21] See Yang, S. A., Bakshi, N. and Chen, C. J. (2021), "**Trade Credit Insurance: Operational Value and Contract Choice**, *Management Science*, Vol. 67, No 2, 25 November, pp. 875-891. This is also the conclusion reached by the CGFS , which argues that the sector has most of the time low loss rates and short maturities, which effectively limits the risk for insurers; see. CGFS (2014), "**Trade finance: developments and issues**", *CGFS Papers*, No 50, Bank for International Settlements, Basel, January.

policyholders without cover when insurers anticipate a systematic increase in claims. This, in turn, poses a risk to supply chains and could lead to liquidity shortages if sellers unprotected by TCI were to ask buyers for advance payment, to trade without cover or decide not to trade at all. Such procyclical dynamics could amplify a crisis.

**Insurers' capital requirements may enhance this procyclical behaviour.** Trade credit insurers have reduced cover during recessions and times of crisis in the past, thereby having fewer underwriting losses than would otherwise have been the case. As solvency capital requirements are based on historical loss data, they reflect this behavioural response and are lower in the event of reductions in cover. Therefore, if trade credit insurers were not to reduce cover in the event of a pending crisis, they might incur losses that they could find difficult to absorb. Consequently, there is an incentive for trade credit insurers to reduce cover in crisis.[22]

**Insurers therefore manage the risks they take by offering TCI with the option for them to reduce their cover during a crisis, making TCI cover procyclical.** For existing contracts, insurers have the option of reducing or withdrawing cover for individual or multiple buyers at any time for future deliveries. This allows insurers to respond quickly to adverse developments. Consequently, any increase in claims anticipated may result in insurers curtailing their exposures and withdrawing cover for those buyers deemed to be most risky. Alternative insurance contracts without this option, non-cancellable contracts, do exist, but they are less common.

**Industry data on TCI cover provides evidence of procyclical behaviour.** Industry data provided by the ICISA[23] shows that cover increased in most years but fell sharply around the time of the GFC and at the onset of the COVID-19 pandemic. This is consistent with information inferred from insurers own statements. For instance, Atradius writes in its 2020 annual report that "the Group has reduced its risk exposure (Total Potential Exposure -TPE) by 8.6%, to €605.7 billion at year-end 2020, due to an adjustment in the risk selection criteria in accordance with the current health crisis and lower commercial activity of our policyholders".[24] And Coface reports that "in 2020, due to pandemic and the global economic slowdown, significant actions to reduce exposures were undertaken, leading to an overall decrease in credit risk of around 10% over the year".[25]

**There is also evidence of the procyclicality of cover at the beginning of the pandemic from a Belgian case study.**[26] At year-end 2019, prior to the outbreak of COVID-19, the total trade credit exposure in Belgium was about €40 billion. In March 2020, before the agreement of government support mechanisms, the total credit covered fell by about one-quarter to €31 billion. Shortly after a government support scheme was introduced in April 2020, cover went back to approximately its initial level. The quick change in cover – both the decrease in March and the increase in April – suggest that variations were not due to changes in the underlying activity but were the result of choices by insurers driven by economic motivations.

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22 A more technical explanation of the solvency capital requirements for trade credit insurers is included in the annex.

23 See the "**Trade Credit Insurance - Insured Exposure, ICISA Members (excl. reinsurance members)** – 2006-2020", ICISA, Amsterdam.

24 See Atradius NV (2020) **2020 annual report**, p. 38.

25 See Coface (2020) "**Consolidated financial statements - Preliminary version, unaudited financial statements**", 31 December, p. 74.

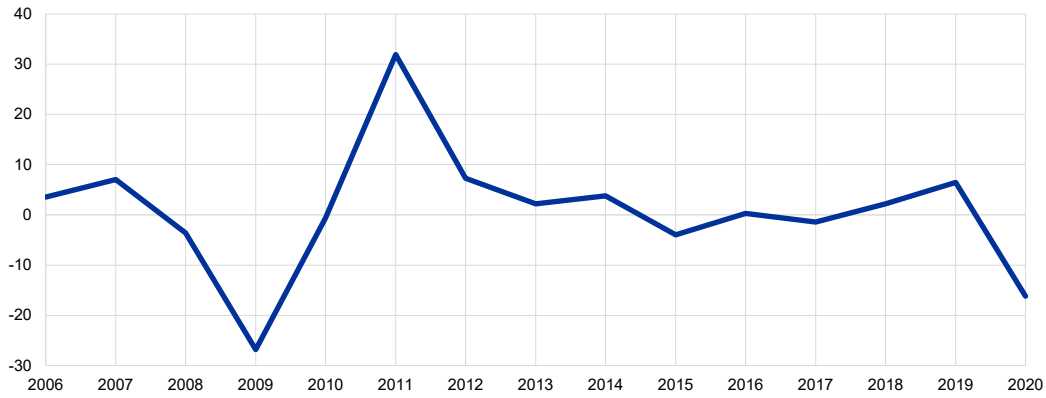
26 Information provided by the Nationale Bank van België/Banque Nationale de Belgique.

**Long-term premium growth provides additional evidence of procyclical TCI cover.** When studying premium growth, it is useful to investigate a fixed firm sample. Chart 7 displays the long-term time series for the premium growth of a large trade credit insurer. This example shows a withdrawal of cover during both the GFC (2007-09) and at the start of the COVID-19 crisis (2020). The time series of aggregate TCI premiums based on ICISA data displays a similar pattern, which can be explained by the fact that premium income is typically a percentage of trade receivables. This implies that when trade credit insurers cut their exposure, the trade receivables covered will decrease and hence premium income will also decrease.[27] However, even when the exposure does not change, trade receivables may decrease due to the less favourable macroeconomic conditions. This is indeed what was observed in 2020 and implies that if exposure were to have been cut, e.g. if no government intervention had been put in place, premium income would have decreased even further.

Chart 7

**Premium growth of a large trade credit insurer**

*(percentages)*




*Source: National insurance supervisor.*

## Box 1
## Limits and procyclicality of insurability

Uninsurability is common for many types of risks. Lack of insurance cover may be the consequence of an insurers' failure, or of an inability or unwillingness of insurers to cover certain risks. The latter is relevant in the event of global shocks combined with large potential claims, as in the case of pandemics. Other examples of potential uninsurable risk are terrorism insurance post the September 11 attacks, and flood risks from changing sea levels due to climate change. The reasons why insurers may be unwilling to cover certain risks are linked to the difficulties of estimating the probability of losses, the scale of maximum losses that might be incurred, and to the frequency, and to the non-random and interdependent nature of certain losses.

[27] The data do not make it possible to distinguish the supply and demand effects, i.e. whether insurers cut their exposures or whether policyholder demand decreased.

Importantly, uninsurability is not a given; it may change over time. Uninsurability may arise with changing awareness of risks and newly emerging risk. This implies procyclical cover in response to the economic cycle.

Lessons learnt during the COVID-19 pandemic call for the analysis of specific insurance business lines. At the onset of the pandemic, there was great uncertainty about how it would affect insurers, in particular business lines covering pandemic-related losses. Whereas most of these losses were not covered by insurance contracts, there are uncertainties and disputes. It is argued that there is a protection gap in relation to pandemics and that the insurance industry on its own might be unable to cover pandemic related losses.

There exist publicly backed insurance programmes or pools for some risk which are deemed uninsurable. For instance, Extremus, a specialised provider of terror insurance in Germany, provides a backstop for losses that is secured by public funds. In France, the publicly owned insurer CCR offers state-backed reinsurance cover against natural catastrophes. However, when such schemes cover only some uninsurable risks, a significant protection gap may remain.

## 1.4 Substitutability

**Alternative ways for companies to transfer trade credit risk are incomplete substitutes.** Table 1 compares TCI to other ways of transferring trade credit risk to financial institutions: letters of credit and factoring. A letter of credit is a guarantee by a bank, typically for a single trade. The use is mostly prevalent for valuable goods and longer shipping times.[28] Contrary to TCI, which is a contract with the seller, a letter of credit is usually initiated and obtained by the buyer. Another alternative is factoring, which is the selling of account receivables at a discount. Factoring is mostly a liquidity management and financing tool, and credit risk is only transferred in a sub-segment, factoring without recourse, when sellers agree not to purchase back an invoice in the event of non-payment. Factoring can be combined with TCI. A further, less used alternative is securitisation to sell credit risk on capital markets. Overall, with these alternatives insurers often bear the ultimate exposure. In some cases, credit default swaps could be an alternative, however, they are not available to most trading partners.

[28] Crozet, M., Demir, B. and Javorcik, B. (2022), "**International trade and letters of credit: A double-edged sword in times of crises**", *IMF Economic Review*, International Monetary Fund, Washington, 1 February.

Table 1

**Overview of the main options for transferring trade credit risk to financial intermediaries**

| | Trade credit insurance | Letter of credit | Factoring |
|---|---|---|---|
| **Intermediary** | Specialised insurers | Banks | Factoring companies |
| **Client relationship** | Seller initiates, buyer may be unaware | Buyer initiates and informs seller | Seller initiates, buyer may be unaware |
| **Trade creditor financing** | No, but facilitates bank financing | No, but facilitates bank financing | Yes, main reason |
| **Credit risk reduction** | Yes, main reason | Yes, main reason | Depends on the type of factoring. If not, it can be combined with TCI. |
| **Scope** | Often all trades of an insured seller | Usually covers specific valuable single or revolving transactions | Flexible, depends on liquidity needs |

**Export Credit Agencies (ECAs) cover political risks in export trade.** The idea is that ECAs insure those trade credit risks that are considered non-marketable, i.e. where cover is not offered by private insurers. ECAs mainly offer long-term single risk cover. To the contrary, trade credit insurers may cover commercial and political risk often in a single (comprehensive) policy, domestic and international trade and offer short-term cover. Whereas private trade credit insurers are selective and charge risk-based premiums, ECAs may have predetermined premium rates that rely on less exact risk assessment.

## 1.5 Economic impact

**TCI has a positive economic impact beyond the benefits for policyholders and policyholders' buyers.** This includes the stimulation of trade activity and the bolstering of financing for firms.

**TCI has a positive influence on trade activity along supply chains.** TCI benefits buyers given that it enables sellers to grant more attractive payment terms. By enabling more generous payment terms, TCI facilitates growth and international expansion, which in turn boosts trade activity. This is also beneficial for other companies in the supply chain; more flexible working capital management facilitates increased trade and expansion. Another effect is that companies along supply chains can trade with each other and only pay invoices as and when their own invoices are paid.

**Empirical research confirms the positive effect of TCI on trade.** Van der Veer (2015) finds that private export credit insurance is positive for exports. Moreover, the findings suggest that private export credit insurance is an exports trade multiplier given that every euro of insured exports is

associated with approximately €1.3 in total exports.[29] This implies that TCI also stimulates exports that are not covered by insurance. Although the magnitude of the effect beyond insured trade is small, it might be concentrated and thus important for certain sectors.[30] Auboin and Engemann (2014) also find that insured trade credit has a beneficial impact on international trade.[31]

**A withdrawal of TCI during times of crisis could result in a decline in trade, and amplify an economic contraction, including through negative externalities that reduce trade beyond previously insured parties.** A reduction in TCI cover may adversely affect the broader real economy in a number of ways. One reaction to a reduction in TCI cover might be that sellers ask buyers for advance payments. This could result in liquidity or financing constraints and ultimately – if buyers are unable to make the advance payment required – disrupt trade. If this were the case, other trade relationships along the supply chain might also be disrupted. Another reaction to a reduction in TCI cover might be that sellers would offer deferred payment to their buyers and retain the credit risk themselves. Were this the case, the default of a buyer would result in the seller incurring a loss. During crisis times, when the financial position of firms is already weakened, this might have a domino effect with defaults and losses spreading through the economy. It is also possible that sellers who are not protected by TCI might stop trading with some buyers, in which case trade volumes would decline. With all of these outcomes, a withdrawal of TCI might create negative externalities leading to disruptions in trade and economic activity more generally, thereby affecting third parties beyond the insured sellers and their buyers.

**TCI withdrawal in crisis can have a negative impact extending beyond insured trade relationships.** It is useful to distinguish the various component elements. First, as outlined in the previous section, there is empirical evidence of a reduction in TCI cover in times of crisis. Second, this reduction may disrupt the trade of insured parties. This is plausible even though there is a counterargument that most trade credit risk is not insured and there is disruption of insured as well of uninsured trade. Finally, externality is the effect of this disruption on the broader real economy extending beyond the insured relationship. This is difficult to capture empirically, mostly because the effects observed are mitigated by state aid schemes and the counterfactual scenario – an economic crisis without state intervention in TCI markets – is unobservable. Van der Veer (2010) estimates that during the GFC  5% to 9% of the total drop in world exports was attributable to the withdrawal of TCI.[32]

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29 Van der Veer, K.J.M. (2015), "**The Private Export Credit Insurance Effect on Trade**", *Journal of Risk and Insurance*, Vol. 82, No 3, pp. 601-624.

30 Input-output models are one avenue of research to further analyse the importance of TCI for specific sectors of the economy.

31 The impact of public export credit insurance is shown in Auboin, M. and Engemann, M. (2014), "**Testing the trade credit and trade link: evidence from data on export credit insurance**", *Review of World Economics*, Vol. 150, No 4, pp. 715-743, Felbermayr, G. and Yalcin, E. (2013), "**Export Credit Guarantees and Export Performance: An Empirical Analysis for Germany**", *The World Economy*, Vol.36, No 8, pp. 967-999, and van den Berg, M. et al. (2019), "**Public export credit insurance in the Netherlands: An input–output approach**", *The World Economy*, Vol. 42, No 9, pp. 2774-2789.

32 Van der Veer, K.J.M. (2010), "**The Private Credit Insurance Effect on Trade**", *DNB Working Papers*, No 264, De Nederlandsche Bank NV, Amsterdam, October. This is an earlier version of Van der Veer (2015).

## 1.6 State aid to remedy a serious disturbance

**After the COVID-19 outbreak many EU Member States began to introduce public support programmes in order to avoid a withdrawal of TCI disrupting trade and amplifying the economic downturn** (see the Annex containing a table providing an overview of state aid schemes). These state aid schemes were found to have been compatible with the Internal Market because they remedied a serious disruption of the economy.[33] Governments did not step in to support the insurance industry as such. Instead, the rationale for the state aid schemes was to avoid amplifying the negative economic effects on the real economy.

**No similar state aid scheme was established in the United States, with estimates suggesting a fall in TCI cover of around 14% in 2020.**[34] With regard to the effect on the real economy, research estimates suggest that the absence of government intervention and the resulting TCI cover cutbacks frustrated a further USD 46 billion in additional production.

**The schemes in Europe showed that governments believe that TCI withdrawal could lead to economic disturbances and that TCI is systemically relevant.** The rationale formulated by governments reflects their view that TCI is critical to the functioning of the wider economy (extending beyond insured trade). For instance, the German authorities justified their support as follows: "the TCI industry shows important signs of network effects. If individual insurers were forced to reduce limits for individual clients that may be particularly affected by the current shock, it would have a domino effect leading to a widespread cancellation of limits across wide parts of the economy (…). Such a widespread cancellation of insurance limits would also increase the likelihood of further domino effects in terms of liquidity squeezes, rating downgrades and even defaults in the economy."[35] And the French authorities have described the state aid scheme introduced in France as appropriate because a "reduction or withdrawal of limits would most likely lead to negative domino effects in the entire French economy. The serious disturbance of the French economy due to the effects of the COVID-19 outbreak would multiply, if existing TCI were no longer available. The impact on liquidity needs for buyers that would be required to provide advance payments as well as the potential losses spreading on to suppliers would be significant."[36] Experience from repeated interventions, during the GFC and COVID-19 pandemic, shows that governments step in in crisis times.

**State support for TCI during COVID-19 can be viewed as an insurance mediated equivalent of the bank mediated loan guarantee schemes.** In both cases, the public sector supported the provision of credit or credit protection in situations where the private sector alone was unwilling to continue to do so. In both cases, schemes transferred some of the credit risk and potential credit losses from private institutions to governments.

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33 State aid measures are based on Article 107(3)(b) of the **Treaty on the Functioning of the European Union** (TFEU) which states that aid may be deemed compatible with the internal market if its objective is "to remedy a serious disturbance in the economy of a Member State".

34 ICISA (2021), "**Credit Insurance Schemes – What would have happened without them?**", International Credit Insurance & Surety Association, Amsterdam, 29 September, based on Litan, R. and Xu, Y. (2020), "**A Strong Recovery Requires a Healthy Trade Credit Insurance Industry**", EconOne.

35 EU Commission decision in **State Aid Case SA.56941(2020/N) – Germany: COVID-19: First-loss portfolio guarantee on trade credit insurance**, European Commission, Brussels, 13 April 2020.

36 EU Commission decision in **State Aid Case SA.56903 (2020/N) – France: COVID-19: State guarantee for the reinsurance cover of domestic trade credit insurance risks**, European Commission, Brussels, 12 April 2020.

# 2 Assessment of TCI as a critical function

**To analyse the systemic relevance, this note uses the EIOPA framework of critical functions (Box 2) and assesses TCI against its criteria.** Systemic risk means a risk of disruption in the financial system with the potential to have serious negative consequences for the real economy of the European Union, or of one or more of its Member States, and for the functioning of the Internal Market.[37] Previous ESRB work[38] highlights the fact that insurance critical functions are a transmission channel for systemic risk (see Box 2).

**The assessment framework uses expert judgement to interpret the criteria for TCI.** The first criterion ("nature and reach of the activity and material impact on third parties to carry out economic activity"), we interpret as relating mainly to the relevance for trade. "Activity" refers to the supply of TCI. The second criterion ("the relevance of insurers appropriate for the market concerned") is solely about the entity level (the insurers), not about the activity. We interpret "market" narrowly as being the European trade credit market. The third criterion ("the nature of the customers") is mainly about the policyholders, the sellers. The fourth criterion ("the potential impact of the disruption of the function") covers second-round effects. The fifth criterion ("the potential losses to taxpayers") is about potential fiscal burdens stemming from government interventions. The assessment is based on the analysis of TCI in the previous section and of the studies discussed there.

[37] See also Article 2 of **Regulation (EU) 1092/2010 on macro-prudential oversight of the financial system and establishing a European Systemic Risk Board** *(OJ L 331, 15.12.2010, p. 1)*.

[38] See ESRB (2017), "**Recovery and resolution for the EU insurance sector: a macroprudential perspective**", *Report by the ATC Expert Group on Insurance*, European Systemic Risk Board, Frankfurt am Main, August.

Chart 8

**Elements in the assessment process for identifying critical or material functions for the financial system or the real economy**

(i) The nature and reach of the activity and the material impact on third parties to carry out economic activity. Relevant aspects are the European or national reach, volume and number of transactions; the number of customers and counterparties materially impacted; the number of customers for which the insurer is a significant insurance partner;

(ii) The relevance of the insurer, on a European or national level, as appropriate for the market concerned. The relevance of the insurer may be assessed on the basis of the size, market share, external and internal interconnectedness, complexity, and cross-border activities of the insurer as already proposed in the Opinion;

(iii) The nature of the customers and stakeholders affected by the function, such as but not limited to retail customers, corporate customers and public entities, taking into account possible reputational effect on the insurance sector;

(iv) The potential impact of the disruption of the function on markets, infrastructures, customers and public services; or

(v) The potential losses to taxpayers, as well as possible pressures for government interventions if the insurer fails.

*Source: EIOPA (2020),* ***Background Document on the Opinion on the 2020 Review of Solvency II****, EIOPA-BoS-20/750, 17 December 2020, p.658.*

## Box 2
## Background on insurance critical functions

The concept of critical functions makes it possible to assess the systemic importance of business lines. According to the Financial Stability Board (FSB), a critical insurance function has all of the following three elements: (1) it is provided by an insurer to third parties not affiliated to the firm; and (2) the sudden failure to provide that function would likely have a material impact on the financial system and the real economy (by giving rise to systemic disruption or by undermining general confidence in the provision of insurance); and (3) it cannot be substituted within a reasonable period of time and at reasonable cost. The FSB consultative document on Guidance on Identification of Critical Functions and Critical Shared Services[39] provides a broad list of functions that could be considered critical that includes TCI.

ERSB (2017) calls for a broadened view, highlighting the fact that the criterion of sudden failures is not helpful and a gradual failure should also be accounted for.[40] It proposes the following definition: a critical function is any function of an insurer or a group of insurers, which (if not provided) might

[39] FSB (2013), "**Recovery and Resolution Planning for Systemically Important Financial Institutions: Guidance on Identification of Critical Functions and Critical Shared Services**", Financial Stability Board, Basel, 16 July.

[40] ESRB (2017), "**Recovery and resolution for the EU insurance sector: a macroprudential perspective**", *Report by the ATC Expert Group on Insurance*, European Systemic Risk Board, Frankfurt am Main, August.

have a significant impact on the financial system or the real economy. This relates to a significant impact on the real economy and no longer requires an impact on the financial system

The EIOPA's Opinion on the 2020 Review of Solvency II further develops the concept of critical functions.[41] The Opinion refers to critical functions in the proposal to establish a recovery and resolution framework for insurance. EIOPA believes that resolution plans should include an assessment of critical functions and other functions that are material for the financial system or the real economy at European or national level. The Opinion mentions a need to issue guidelines on critical functions, which should allow the resolution authorities to consider a function to be "critical" not only at insurance group level, but also where it might be seen as sufficiently important for the national economy. This further expands on the strict conditions of sudden failures and no substitutability.

The European Commission's proposal on establishing a framework for the recovery and resolution for the insurance sector, published on 22 September 2021, builds on the concept of critical functions. Ensuring the continuity of critical functions is a resolution objective. Critical functions in the proposal means activities, services or operations performed by an insurance or reinsurance undertaking for third parties that cannot be substituted within a reasonable time or at a reasonable cost, and where the inability of the insurance and reinsurance undertaking to perform the activities, services or operations would be likely to have a significant impact on the financial system and the real economy in one or more Member States, including by affecting the social welfare of a large number of policyholders, beneficiaries or injured parties or by giving rise to systemic disruption or by undermining general confidence in the provision of insurance services.[42]

**The assessment here is based on an ordinal five-rank scale against the criteria.** To evaluate to what degree TCI can be considered to be a critical function or material for the real economy, we have used for each criterion a ranking of "yes", "mainly yes", "neutral", "mainly no", and "no". This makes it possible to compare the assessment of the criteria between each other and, in addition, to make comparisons between assessments of other business lines. A predominance of at least "mainly yes" has been assumed to indicate systemic relevance.

41 See EIOPA (2020), "**Background document on the Opinion on the 2020 Review of Solvency II**", European Insurance and Occupational Pensions Authority, Frankfurt am Main, 17 December, p. 658.

42 See Article 2(2) of the **proposal for a Directive of the European Parliament and of the Council establishing a framework for the recovery and resolution of insurance and reinsurance undertakings and amending Directives 2002/47/EC, 2004/25/EC, 2009/138/EC, (EU) 2017/1132 and Regulations (EU) No 1094/2010 and (EU) No 648/2012**, 22.9.2021, COM(2021) 582 final 2021/0296(COD).

Table 2

**Assessment of TCI against the criteria for critical functions as outlined by the EIOPA in the Opinion on the 2020 Review of Solvency II**

| Criterion | Assessment | Rationale |
|---|---|---|
| **The nature and reach of the activity and the material impact on third parties to carry out economic activity** | Mainly yes | TCI is a common tool to protect against trade credit risk. There is a positive general effect of TCI on trade (Auboin and Engemann (2014) and Van der Veer (2015)). If TCI also has a positive effect on trade that is not insured, it will stimulate the economic activities of third parties. In addition, TCI supports trade credit, which is an essential element of the financing of firms. |
| **The relevance of insurers appropriate for the market concerned** | Neutral | In some segments and major EU markets, such as France and Germany, trade credit insurers have a large market share in covering trade credit risk. However, overall, TCI has a limited role in domestic trade. Generally, competing products offered by banks have different characteristics and are unable to address the same customer needs as TCI. This indicates low substitutability in existing relationships. |
| **The nature of the customers** | Mainly Yes | Companies which supply other companies (B2B) are the policyholders. These are from a broad range of sectors, often with a focus on capital-intensive industries. Use is more prevalent among large companies.[43] |
| **The potential impact of the disruption of the function** | Mainly yes | A contraction of TCI cover poses a risk to supply chains. This could have negative externalities, amplified within the real economy. The effect is concentrated in the real economy and not within the financial system. |
| **The potential losses to taxpayers** | Mainly yes | Losses to taxpayers would be incurred indirectly as a result of lower tax income due to lower business activity. |

*Sources: Criteria adopted from the EIOPA Opinion on the Solvency II Review. Own assessment and rationale.*

**Overall, the assessment summarised in Chart 10 suggests that TCI is a critical function and therefore a systemically relevant business line.** However, two ESRB member institutions – one of which a non-voting member – did not share the view that TCI is a source of systemic risk. One argument that can be made against considering TCI to be a critical function is that TCI is not common in many regions of the world and that there is little empirical evidence of negative externalities. Furthermore, many companies, depending on the sector, decide to retain the risk rather than buying TCI. An argument that supports the assessment of TCI as a critical function is that the introduction of state aid schemes in Europe indicates that several governments have considered that TCI withdrawal could lead to serious disruption of the economy.

[43] There is not a clear-cut relationship between types of customer and criticality. For instance, a higher weighting could be argued for if the customers are large companies (potential systemic impact), but also when the customers are small companies (reputation/confidence in the system).

# 3 Avenues for policy work

**Ad hoc government interventions are a suboptimal way of maintaining TCI cover.** In particular, anticipation of state aid can result in insurers and policyholders being unprepared.[44] For instance, policyholders may be unwilling to purchase non-cancellable TCI contracts that would provide better protection against withdrawal of cover in crisis, but which are likely to be more expensive. Likewise, insurers may not offer non-cancellable contracts due to low demand. A private-sector solution may therefore not emerge unless it can be credibly communicated that governments would not intervene on TCI during a next crisis. Beyond financial stability concerns, the use of different types of state aid schemes across EU Member States might also distort competition and harm the functioning of the Single Market. Moreover, as such ad hoc schemes are designed under time pressure there is an increased risk of design faults that could, for example, lead to tax payers bearing a disproportionate share of the risk.

This section sets out avenues for future work in order to prevent an abrupt withdrawal of TCI and ad hoc government interventions in times of stress. For purposes of this presentation, the avenues for further work are organised along two dimensions: (i) private-sector solutions, and (ii) pre-designed public-sector solutions, albeit that combinations of private and public solutions that are used in other contexts, such as natural catastrophes or terrorism, could also be considered. While such interventions also involve design challenges, they have an advantage over ad hoc interventions in that these challenges can be considered and addressed in good times.

## 3.1 Private-sector solutions

**Private-sector solutions might take the form of greater use of non-cancellable contracts.** Contrary to most TCI contracts today, non-cancellable contracts do not include an option for insurers to reduce or withdraw the credit limits for single or multiple buyers at any time for future deliveries. Reflecting this, their use could reduce the procyclicality that can arise from withdrawals of TCI at short notice.

**The design challenges for non-cancellable contracts arise from the need to manage moral hazard and the risk that TCI could become unaffordable.** Moral hazard could arise if non-cancellable contracts were to remove the incentives for TCI policyholders to assess the creditworthiness of the buyers of their goods. For example, if sellers faced few losses when their buyers defaulted, they might continue to sell their goods to buyers even if those buyers' creditworthiness had deteriorated to such a degree that default would be likely. TCI could become unaffordable if non-cancellable contracts were to result in a sharp increase in pricing compared with cancellable contracts. With cancellable contracts, TCI claims are driven by idiosyncratic factors, which makes it possible for insurers to diversify risk through pooling. With non-cancellable contracts, TCI claims might also be driven by systematic factors, given that, in times of stress,

[44] Shortcomings of ad hoc interventions, such as the risk that they may crowd out of private sector risk management, is assessed in other contexts, such as flood insurance. See Raschky, P. A., Schwarze, R., Schwindt, M. and Zahn, F. (2013), **Uncertainty of governmental relief and the crowding out of flood insurance**", *Environmental and Resource Economics*, Vol. 54, No 2, pp. 179-200.

insurers would not be able to withdraw cover for existing contracts. For insurers to compensate for the risks of being locked-in during times when systematic factors drive claims, they would need to generate higher premiums during times when claims were only driven by idiosyncratic factors. Moreover, non-cancellable contracts would also expose insurers to losses that would materialise should a situation arise in which claims were driven by systematic factors. A systemic capital risk charge to capture the additional credit risk when credit limits are kept intact would therefore be warranted. Capital charges designed to act in a countercyclical manner could also be explored. The extra capital costs likely to be associated with non-cancellable contracts would probably also be reflected in higher premiums, and it is uncertain whether sellers would be prepared to pay more during good times to mitigate the risk of their credit lines being withdrawn during times of crisis. These design challenges need to be considered further to ensure that greater use of non-cancellable contracts does not render TCI prohibitively expensive and/or lead to the exclusion of some buyers.

## 3.2 Pre-designed public-sector solutions

**Pre-designed public-sector solutions might take the form of harmonised EU-wide public reinsurance schemes.** Certain risks might not be privately insurable (see Box 1). In such cases, there would be a role for the public sector to act as an 'insurer of last resort'. A public-sector solution might avoid the drawbacks of private solutions at the higher prices and with the policy limits and exclusions described above. Pre-designed public-sector solutions might also avoid some of the pitfalls of the ad hoc state aid schemes introduced during the COVID-19 pandemic. In particular, a pre-designed scheme would provide policyholders and insurers with certainty about the degree of risk they need to manage through private markets. This would reduce some of the moral hazard that might arise from expectations of ad hoc state aid. Moreover, a degree of harmonisation, minimum standards and/or a set of principles for a common approach among Member States would reduce any distortions of competition that might arise from differences in design across Member States.

**Design challenges for pre-designed public-sector schemes arise from the need to manage moral hazard.** Moral hazard might arise if a pre-designed public-sector scheme were to incentivise policyholders and insurers to take greater risks that would ultimately be borne by the public. This is a design challenge familiar to private-sector reinsurance and other forms of government insurance. The latter includes the public-sector schemes in relation to flood risk and terrorism described in Box 1, as well as public health insurance and unemployment insurance. The ad hoc state aid schemes launched during the COVID-19 pandemic included features to reduce moral hazard, such as a commitment to uphold the current limits, a cap on losses and risk-sharing in the form of a split of claims and expenses between insurers and the state. They therefore provide a basis for exploring different risk-sharing designs, such as proportional and non-proportional reinsurance schemes. One option might be for any risk-sharing scheme to define public intervention in such a way that governments would only have to intervene if a certain predetermined fixed loss ratio was exceeded (excess of loss reinsurance).

## 3.3 Future work

**Further work is needed to identify and address design challenges to the private-sector solutions and pre-designed public-sector solutions sketched out in this issues note.** In principle, such solutions would seem preferable to ad hoc government intervention to remedy disruption to the economy. In practice, they would need to be carefully designed to avoid unintended consequences that might arise. For example, addressing the risks of moral hazard is key to any type of insurance scheme, be it private, public or a combination thereof. Therefore, developing the policy avenues into proposals requires further analysis, including through engagement with stakeholders, to identify and work through design challenges. This issues note is intended to stimulate such engagement.

# Annex

Table A

**Maximum volume for state aid schemes in EU countries during the COVID-19 pandemic in the period 2020-2021**

*(EUR millions)*

| Country | Type | Implementation | Terms | Start | End | Maximum volume |
|---|---|---|---|---|---|---|
| **BE** | Non-proportional reinsurance | Memorandum of Understanding (MoU) between state-backed reinsurer ECA Credendo, the insurance sector and the state; bilateral agreements with insurers | Voluntary reinsurance for trade credit and surety insurance for a maximum of two years<br>* insurers: keep cover as far as possible, no mass action or linear portfolio reduction but case-by-case assessment (deteriorating solvency, non-payment, non-usage)<br>* state: loss cover based on tranches: 50% (80%, 90%) up to 100% (300%, 1000%) of annual gross premiums; proportionate premium sharing with a 35% administration fee for insurers; maximum risk per debtor of €50 million; auditor for monthly aggregated reporting<br>* changes: 07/20: TCI also for micro-enterprises and small businesses, 11/20: extension until 06/21 | 15-05-20 | 30-06-21 | 903 |
| **DE** | Proportional reinsurance | Agreements between Ministry of Finance (MoF) and insurers confirmed by official certificates governed by public law | Compulsory reinsurance for existing and new contracts<br>* insurers: retain cover except danger of insolvency and payment default, 10% risk retention, maximum loss up to €5 billion<br>* state: 65% premiums, mandatory monitoring and audit<br>* changes 12/2020: 90%/10% loss and premium sharing without a threshold, 31.5% administration fee for insurers | 16-04-20 | 30-06-21 | 30,000 |
| **DK** | Proportional reinsurance | Administrative order, bilateral agreements between state-owned ECA EKF and insurers; confirmed by official certificates governed by public law | Compulsory reinsurance for existing and new contracts<br>* insurers: retain cover except danger of insolvency and payment default, 10% risk retention, maximum loss of approximately €670 million<br>* state: 65% premiums, loss cover including storage and transportation<br>* changes 12/2020: 90%/10% loss and premium sharing without a threshold; 35% administration fee for insurers | 22-04-20 | 30-06-21 | 4,000 |

Table B

**Maximum volume of state aid schemes in EU countries during the COVID-19 pandemic, 2020-2021**

*(in EUR million)*

| Country | Type | Implementation | Terms | Start | End | Maximum volume |
|---|---|---|---|---|---|---|
| ES | Proportional reinsurance | Royal decree law defining state Insurance Guarantee Scheme (IGS)/resolution authority Insurance Compensation Consortium (CCS) as reinsurer; agreements between Insurance Compensation Consortium (CCS) and insurers | Voluntary reinsurance for TCI for a maximum of two years and for TCI companies authorised to operate in ES with minimum €10 million premiums<br>* insurers: no sector-wide or linear portfolio reduction but individual buyer exceptions, minimum 10% risk retention, lower of 35% administration fee or costs<br>* state: maximum 60% loss and premium sharing, quarterly cover reporting<br>* changes 07/2021: extension until 12/2021, extensions of policies underwritten in 2020 and 2021 | 01-10-20 | 31-12-21 | 500 |
| FR | Top-up or substitute insurance | State guarantee for reinsurer CCR | Voluntary top-up and substitution insurance of domestic trade credit risk with SMEs<br>* insurers: must notify policyholders of any substitution before cutting limits, receive administration fee<br>* state: guarantees CCR providing 1) complementary insurance: max. 90% loss cover, max. 100% primary insurance; 2) substitution insurance: max. 2-6% probability of default (PoD), max. 80% loss cover, min. retention for private insurer; CCR receives max. 2-3% premium and pays a guarantee fee to the state<br>* changes 12/20: same measure for export TCI and for all buyers; max. 200% primary insurance cover, premiums lowered due to lower probability of default (PoD) | 23-03-20 | 31-12-21 | 8,000 |
| IT | Proportional reinsurance | Agreements between the state-owned ECA SACE and insurers approved by decree | Reinsurance for TCI for a maximum of two years<br>* insurers: 10% risk retention, commit to keep limits and no action to decrease them; lower of 35% administration fee or effective costs<br>* state: 90% loss (protracted default) and premium sharing, SACE receives management fee; allocation pro-rata based on market share<br>* changes 12/20: extension until 06/21 | 13-08-20 | 30-06-21 | 2,000 |

Table C

**Maximum volume of state aid schemes in EU countries during the COVID-19 pandemic in the period 2020-2021**

*(EUR millions)*

| Country | Type | Implementation | Terms | Start | End | Maximum volume |
|---|---|---|---|---|---|---|
| LT | Loss cover guarantee | Guarantee agreements between the Lithuanian national promotional bank INVEGA and insurers | Voluntary loss cover guarantee for TCI for a maximum of two years also covering foreign policyholders<br>* insurers: restore or maintain limits and reduce only on a case-by-case basis (e.g. probable insolvency, non-usage, agreement), 35% administration fee<br>* state: maximum 90% loss cover, 100% premiums, allocation based on limit market shares, quarterly limit reporting per policyholder and premiums | 22-12-20 | 30-06-21 | 90 |
| LU | Non-proportional reinsurance | Agreements between the state-owned ECA ODL and insurers approved by decree | Voluntary reinsurance for a maximum of two years for TCI and surety risks underwritten and invoiced in 2020<br>* insurers: no mass action or linear reduction of credit limits; but case-by-case assessment based on most recent financial situation of buyer, country, rating, prospects<br>* state: loss cover based on tranches: 50% (80%, 90%) up to 100% (300%, 1000%) of annual gross premiums; proportionate premium sharing with a 35% administration fee for insurers; reporting in the same way as in Belgium; max. risk per debtor €50 million<br>* changes: extension until 30/06/21 | 01-07-20 | 30-06-21 | 145 |
| NL | Proportional reinsurance | Agreements between the state and eligible TCI | Voluntary reinsurance independent of the type of claim (e.g. insolvency ,revocatory action, protracted default, political risk)<br>* insurers: 10% risk retention and maximum loss of €1 billion, no large-scale actions to reduce limits (except for financially unstable buyers), actual administrative costs, allocation based on limit exposure<br>* state: loss cover of a maximum of €12 billion including storage and transportation, 100% gross premiums, auditor and monthly reporting<br>* changes 12/20: extension until 06/21; 90%/10% loss and premium sharing | 25-05-21 | 30-06-21 | 12,000 |

Table D

**Maximum volume of state aid schemes in EU countries during the COVID-19 pandemic in the period 2020-2021**

*(EUR millions)*

| Country | Type | Implementation | Terms | Start | End | Maximum volume |
|---|---|---|---|---|---|---|
| **PL** | Proportional reinsurance | Agreements between the Ministry of Economic Development, Labour and Technology and insurers | Voluntary reinsurance for a maximum of two year TCI based not only on invoice but also shipment, prepayment, delivery and including factoring<br>* insurers: 20% risk retention, 35% administration fee, maintain limits except where there is, e.g. increased probability of insolvency, non-usage, country risk<br>* state: 80% loss and premium sharing, allocation based on premium market share, quarterly reporting on limits | 01-06-21 | 31-12-21 | 800 |
| **PT** | Top-up insurance | Decree-Law 10-J/2020 of 26 March 2020 as amended by Decree-Law 26/2020 of 16 June 2020; Ministry of Finance | Voluntary top-up insurance for domestic TCI for a maximum of 6 months<br>* insurers: min. 10% risk retention, allocation pro-rata based on market shares<br>* state: loss coverage max. 150% of primary insurance, 130% premiums, 30% administration fee | 31-03-20 | 31-12-21 | 500 |
| **RO** | Loss cover guarantee | Romanian counterguarantee fund FRC | Voluntary loss cover guarantee for TCI for a maximum of one year for active contracts in 07/20 and new contracts until 12/20<br>* insurers: 20% risk retention, 35% administration fee, no mass action or linear portfolio reduction only on a case-by-case basis (e.g. insolvency, non-payment or -usage)<br>* state: max. 80% loss/premium sharing, allocation based on premium market shares, monthly limit reporting per policyholder (quarterly premiums) | 15-10-20 | 31-12-20 | 103 |

*Source: **European Commission Competition Policy Case Database**.*
*Notes: State aid case numbers for TCI are SA.57188 as amended by SA.58045, SA.59113 and SA.60548 (BE); SA.56941, as amended by SA.60071 (DE); SA.57112 as amended by SA.59637 (DK); SA.58458 as amended by SA.63690 (ES); SA.56903 as amended by SA.59571 and SA.63316; and SA.57607 (FR); SA.57937 as amended by SA.59681 (IT); SA.58540 (LT); SA.57708, as amended by SA.59682 (LU); SA.57095 as amended by SA.60287 (NL); SA.59800 (PL); SA.58082 (PT); SA.58532 (RO).*

## Technical details on the solvency capital requirement for trade credit insurers

**Given that trade credit insurer capital requirements are calibrated based on historical losses allowing for withdrawals of cover, there is a risk of undercapitalisation if cover is maintained in a crisis.** The capital requirements under **Solvency II**[45] correspond to the 99.5% of the value at risk (VaR) of the loss distribution within a one-year horizon. In other words, what the solvency capital requirement (SCR) measures is the amount of unexpected losses that can occur within a one-year period. As for other non-life insurance lines of business, the capital to be held for underwriting risk relates to the risk of insufficient premiums and under-reserving claims:

First, the most important component is the risk premium. This capital charge captures possible credit losses in the portfolio and amounts to roughly 57% of net premiums, which is one of the highest for all non-life insurance business lines.

Second, non-life catastrophe risk captures losses from macroeconomic or microeconomic events, such as the default among the two largest exposures.[46] For a macroeconomic recession event, a capital charge for a downturn resulting in an increase of total outflows equal to earned premiums (100% combined ratio) is required.

Third, the reserve risk component covers the uncertainty of claims provisions and the risk of under-reserving, resulting in a capital charge of roughly 51.6% of net claims provisions, which is also one of the highest for all non-life insurance lines of business.

Whereas these components should capture the underwriting risks of trade credit insurers, in practice they reduce cover to reduce credit losses during crisis periods. These consequently lower observed historical credit losses are used to calibrate the capital requirements referred to above applying the standard formula and using internal models. The capital requirements for trade credit insurers therefore implicitly assume a reduction in credit limits and are only sufficient if this risk mitigating action is indeed performed.

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45 **Directive 2009/138/EC of the European Parliament and of the Council of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II)** (OJ L 335, 17.12.2009, p. 1).

46 For this large credit default component, a concentration event is simulated with the default of the two largest exposures amounting to 10% of the sum insured in relation to the exposure incurred

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