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`News release:

CUSTOMER AND SUPPLIER PAYMENT PERIODS OF NON-FINANCIAL CORPORATIONS

An International Comparison

FSA (Financial Statement Analysis) WG

European Committee of Central Balance Sheet Data Offices (ECCBSO)

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The views expressed in this paper are those of authors and do not necessarily represent those of the ECCBSO or those of the national central banks. The financial cost indicator used in this study was calculated with a harmonized definition. Nevertheless, it reflects national charts of accounts, which may not be completely harmonized.

Contents

1. Introduction

This news release presents the most recent trends in trade credit (TC) of European non-financial corporations (NFCs), using accounting data derived from companies' financial statements. The analysis focuses on the three most important sectors that have significant weight in the GDP of countries: manufacturing, trade, and construction. This release updates past reports with 2022 data (the latest available). Results relate to the seven countries participating in the Financial Statement Analysis Working Group (FSA WG): France, Greece, Italy, Poland, Portugal, Spain and Türkiye.[1]

The FSA WG analysis allows a homogenous comparison – in terms of values and trends – of DPO (Days Payables Outstanding) and DSO (Days Sales Outstanding) across several European countries according to company size and sector, providing a picture of structural differences among countries and of their trends in recent years.

After the outbreak of the pandemic, the tensions on firms' liquidity needs (especially in particular sectors) led in some countries to a lengthening of payment terms. In addition, in 2021 and 2022, companies, in particular SMEs in high energy consumption sectors, have been affected by the input cost increases, with a negative impact on their liquidity. We see two opposite phenomena: on the sales side, companies have tried to shorten payment terms; on the purchasing side, they have tried to extend them as much as possible (especially in 2021). Clearly, in this process, the bargaining power of the companies is crucial, both towards their customers and their suppliers. In 2022 the effects of the pandemic seemed completely absorbed. The downward trend common to all countries resumed, with a generalized reduction in DSO and DPO days.

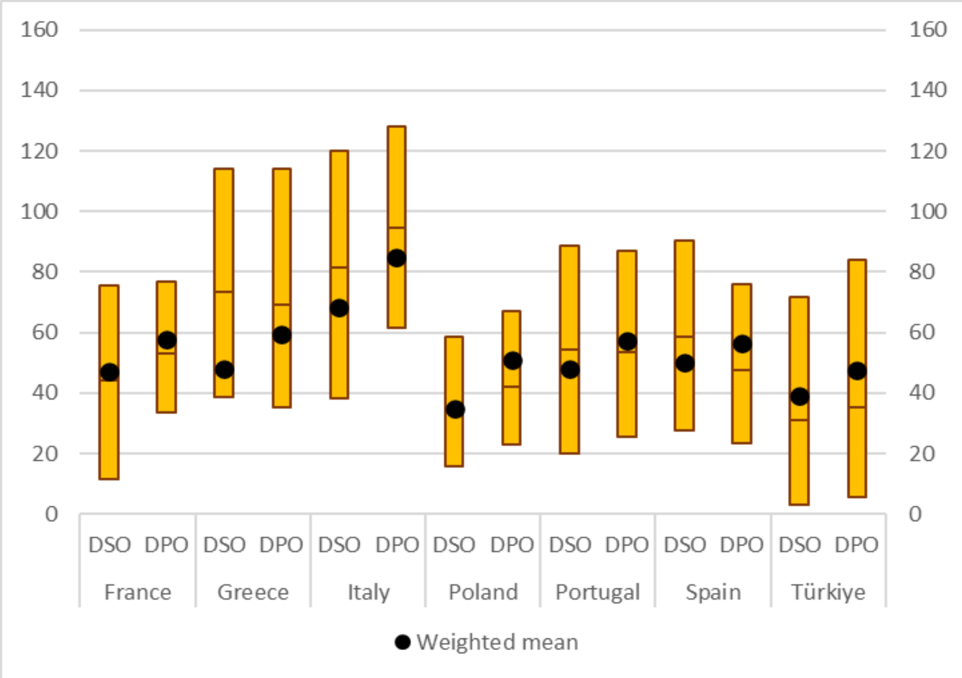
2. Summary Statistics

The charts below provide an overview of the distribution of DSO and DPO in 2022, in terms of weighted mean (WM) and quartiles (Q1 to Q3). We exclude from the analysis micro enterprises, due to their different sample coverage across countries. These distributions are heterogeneous across countries. Like in the previous news release, the longest payment days are observable in Italy, while the shortest (at least in terms of Q1 and median) are observable in Türkiye (Figure 1). On average DPO are larger than DSO; in particular, in some countries (like Greece, Italy, Portugal and Spain) DSO's WM

[1] Previous reports included German data; see the section publication on the website https://www.eccbso.org/wba/working-groups.

is lower than the median, suggesting that larger companies, thanks to their bargaining power, manage to collect from their customers sooner.

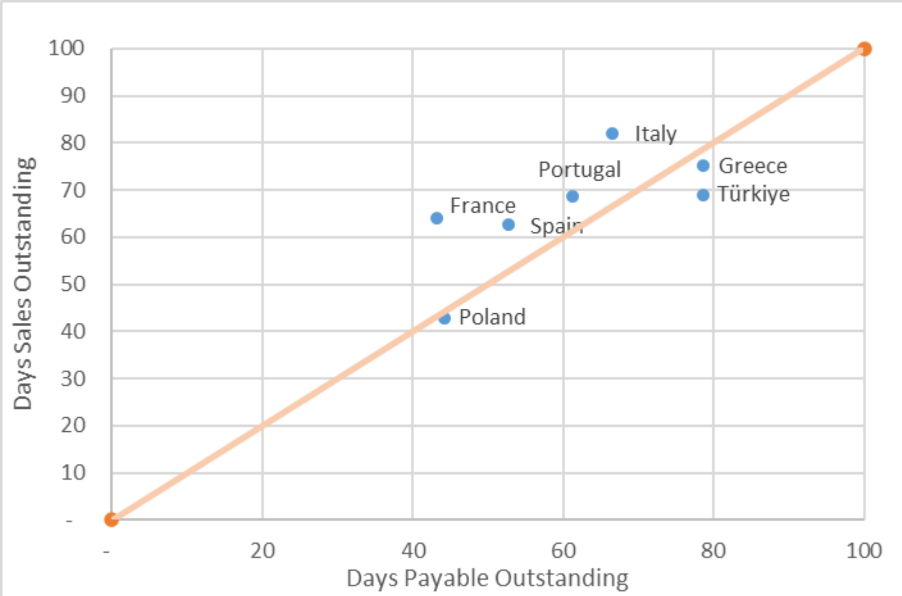
Figure 1 – Box-plot by country (2022, in days)



Note: The bottom and top of each box are the first and third quartiles, the middle band is the median and the black marker is the weighted mean.

Looking at the interquartile ranges (IQR), a measure of variability, larger values are observed in Italy, Greece and Türkiye (Figure 2). Additionally, Poland has tighter distributions, both for DSO and DPO. France and Italy exhibit the highest differences between DPO and DSO interquartile ranges (as shown by the distance from bisector), with DSO interquartile ranges higher than DPO's. This gives some insights into the dispersion of behaviors that exist among companies in some countries', mainly in days sales outstanding. Distinguishing the sectors of activities, the relative ranking of countries remains similar. Moreover, retail trade companies show systematically a lower dispersion in DSO than in DPO, while firms in construction have the highest dispersion for both variables, particularly in Italy and Türkiye.

Figure 2 – DSO and DPO interquartile range by country (2022, in days)

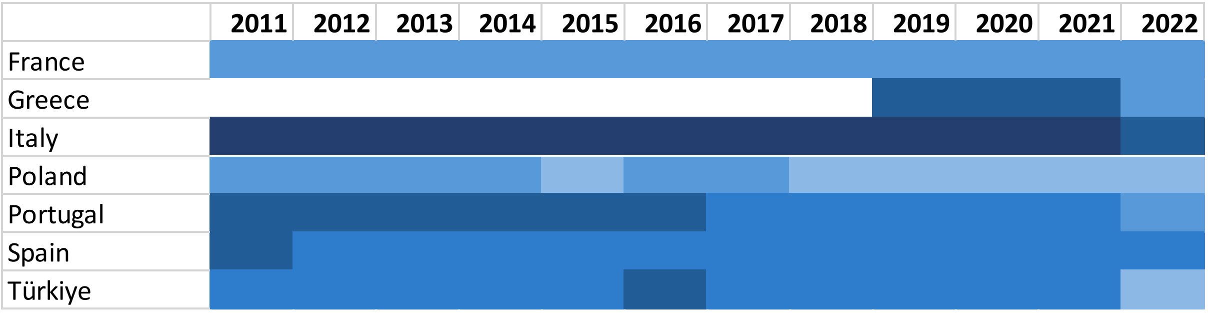


Heat maps of DPO and DSO (Figure 3) show trends in the payment periods. After 2016 we notice a slight reduction in payment days in some countries. In recent years, after a short-lived increase in the pandemic era (evident only for DSO in Italy and Spain), in most of countries firms decreased payment terms during the energy price shock (except in France and in Poland).

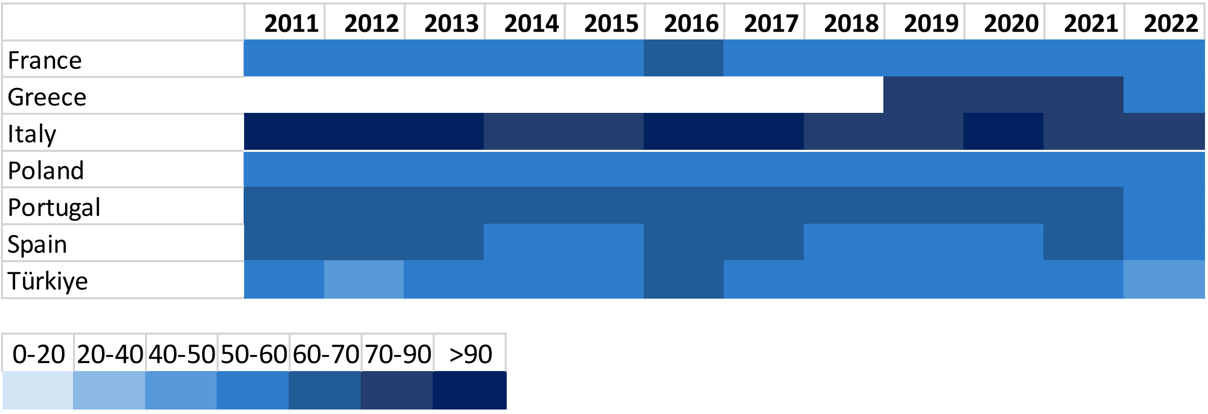
Overall, in most of the years, DPO tends to be higher than DSO, for the majority of countries. As already concluded in previous works of the FSA WG, this heterogeneity of behaviors can be explained by many factors: at the macroeconomic level, the difference in legislations (see Annex III – Number of companies by country and size (2022)) and payment cultures, and at the microeconomic level, the difference in corporation structure (e.g. firms belonging to a group or not), in bargaining power and in commercial policy.

Figure 3 – Heat maps of DSO and DPO by country, 2011 to 2022, by number of days intervals

DSO (weighted means – in days)



DPO (weighted means, in days)



Note: Greece data are available from 2019.

3. Detailed Results

3.1. DSO and DPO results in 2022 by size and sector

In this section, we focus on 2022 DSO and DPO by firm size (excluding micro enterprises) and by sector. Figure 3 and Figure 4 show the weighted means of DSO and DPO by firm size. For all countries, the shortest DSO characterize large companies, while no significant differences can be noted between small and medium-sized firms. The largest gaps between large companies with respect to the other size classes are observable in Italy, Portugal and Spain; conversely, in the other countries there is less dispersion across size classes. Italian companies confirm the highest DSO values across size classes.

Regarding the DPO, the pattern across size classes is less clear-cut. In some countries, like Spain and Poland, large companies have the highest average values; conversely, in the other countries small firms have the longest supplier payment periods.

Figure 3 – DSO by country and size (weighted means, 2022, in days)

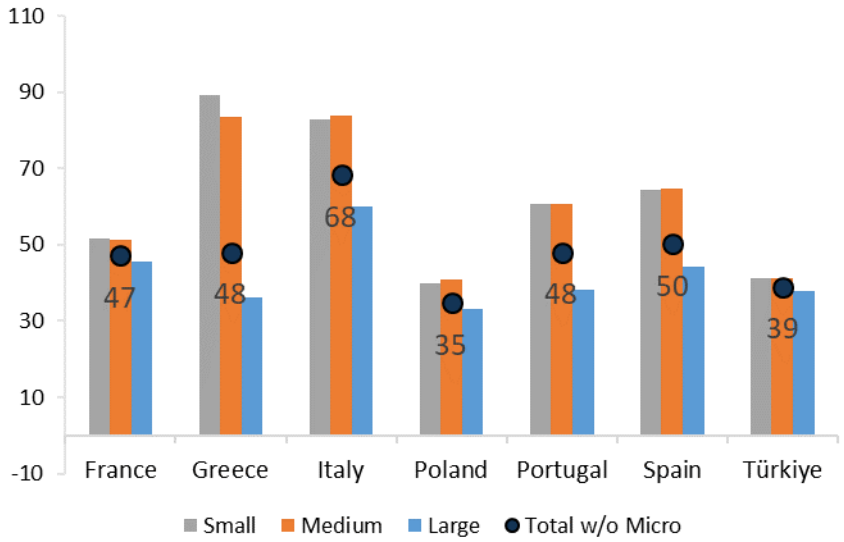


Figure 4 – DPO by country and size (weighted means, 2022, in days)

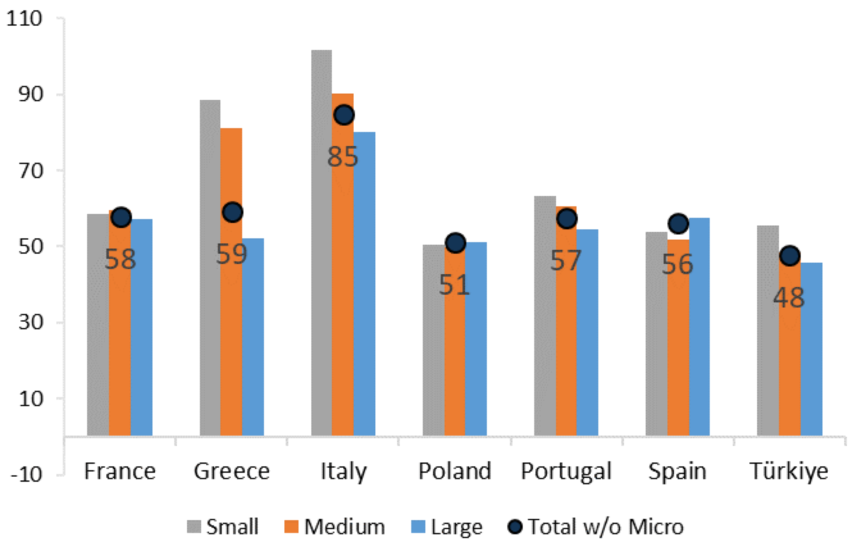


Figure 5 and Figure 6 focus on sectors of economic activity. Construction has the longest DSO for almost all countries, while retail and motor vehicle trade present the lowest DSO values (as expected due to the nature of business).

The construction sector has also the highest DPO values, while there is less dispersion among the other sectors, compared to DSO.

Figure 5 – DSO by country and sector (weighted means, 2022, in days)

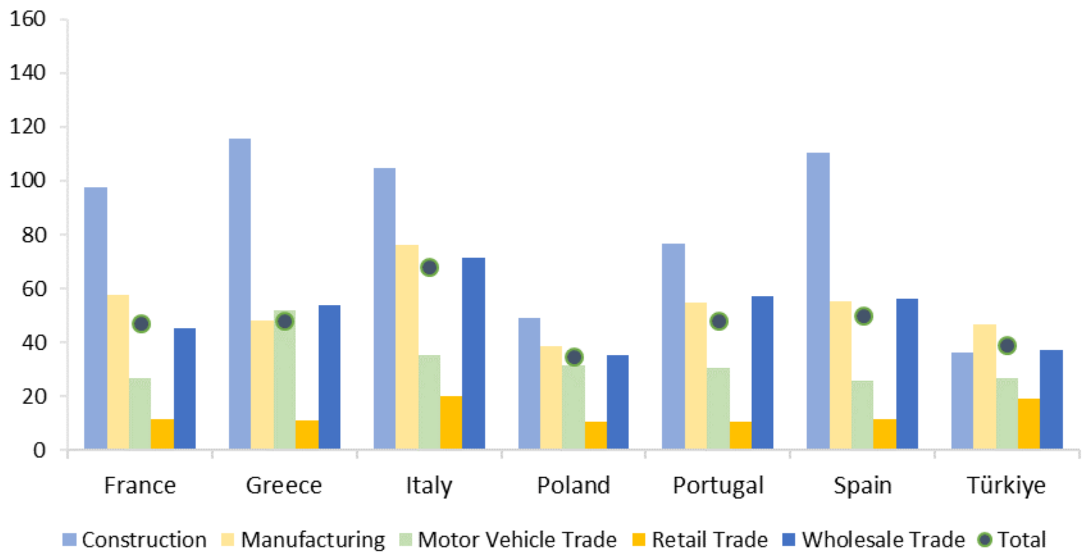


Figure 6 – DPO by country and sector (weighted means, 2022, in days)

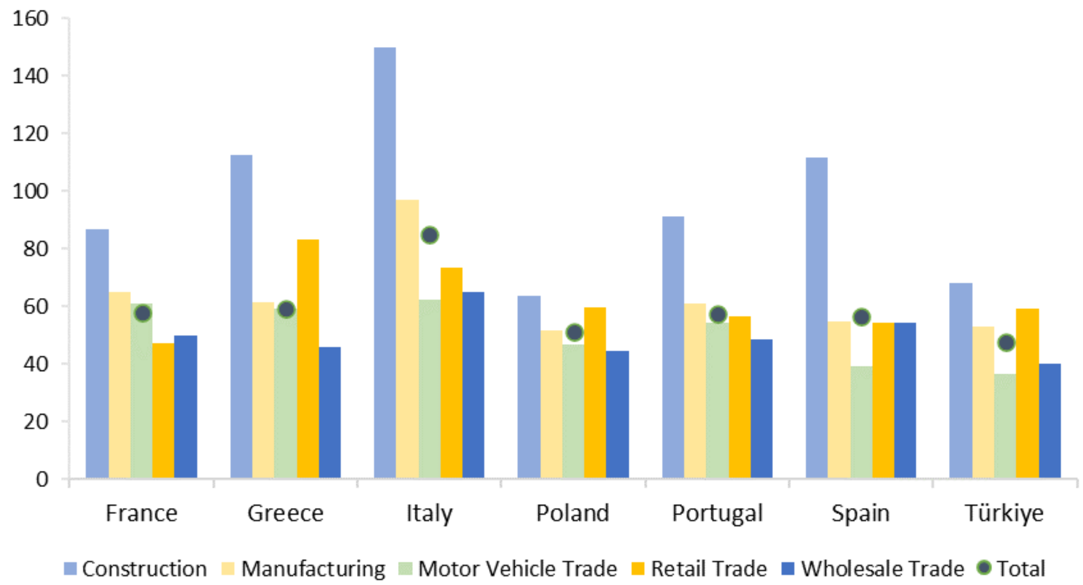


Table 1 and 2 present the Trade Credit Balance (TCB) for 2022 and 2019, respectively, calculated from the ratio of the difference between trade receivables and payables to net turnover (see Annex I: Methodology). The indicator shows the liquidity advantage: the lower the TCB, the more the company is successful in managing its liquidity. We note little difference in the sign of the TCB across countries. In all countries, the overall TCB is negative in the trade sector, owing to the motor vehicle trade and the retail sectors, where payables are usually higher than receivables. In the wholesale trade sectors TCB is always positive, with the exception of Poland. Even if the sign (positive/negative) is quite homogeneous across countries, it is evident a high dispersion of the indicator, particularly in construction and motor vehicle sectors. Finally, we do not note significant changes compared to the pre-pandemic period.

Table 1 – TCB by country and sector (weighted means, 2022, in %)

	France	Greece	Italy	Poland	Portugal	Spain	Türkiye
Construction	34	19	-7	-1	10	29	-23
Manufacturing	5	-3	-1	-2	4	9	4
Trade	-9	-2	-4	-14	-7	-7	-5
Motor Vehicle Trade	-28	2	-22	-11	-19	-9	-6
Wholesale Trade	2	13	12	-4	13	7	0
Retail Trade	-28	-52	-43	-39	-38	-34	-29

Table 2 – TCB by country and sector (weighted means, 2019, in %)

	France	Greece	Italy	Poland	Portugal	Spain	Turkey
Construction	36	58	4	-3	18	34	-7
Manufacturing	7	11	3	0	10	9	13
Trade	-10	-3	-5	-13	-7	-5	1
Motor Vehicle Trade	-30	7	-29	-8	-14	-7	0
Wholesale Trade	3	21	15	-2	14	9	8
Retail Trade	-28	-60	-43	-39	-39	-32	-28

<-2	-2 - 2	>2

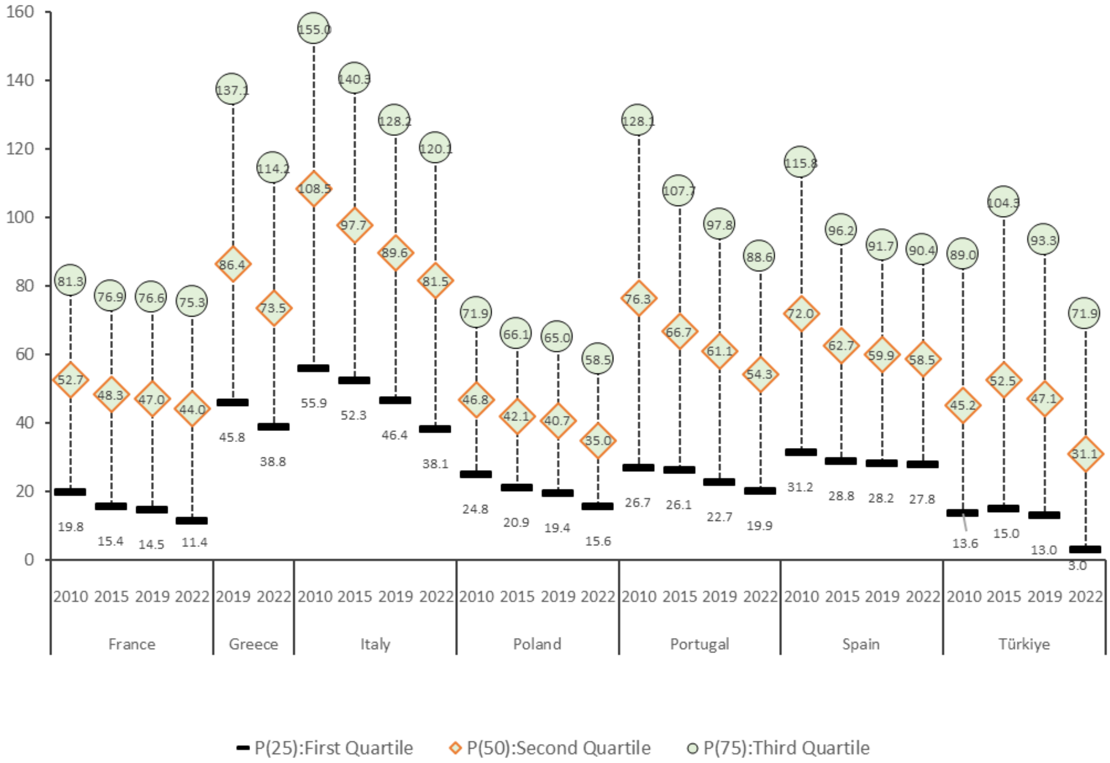
3.2. DSO and DPO distribution over time

This section focuses on time dynamics. Figure 7 and Figure 8 exhibit the quartile measures for the years 2010, 2015, 2019, and 2022. In the last twelve years, payments habits have been changing, moving towards shorter time. This trend is common to DSO and DPO, for all countries and the overall period.

In 2022 the effects of the pandemic seemed completely absorbed. The downward trend common to all countries resumed, with a generalized reduction in DSO days.

Similarly, also data on DPO show a general reduction trend, even if a little bit less clear than in the case of DSO. Also for DPO, we can say that companies have completely recovered the pre-Covid declining trend.

Figure 7 - Quartiles of the DSO distribution over time by country (in days)

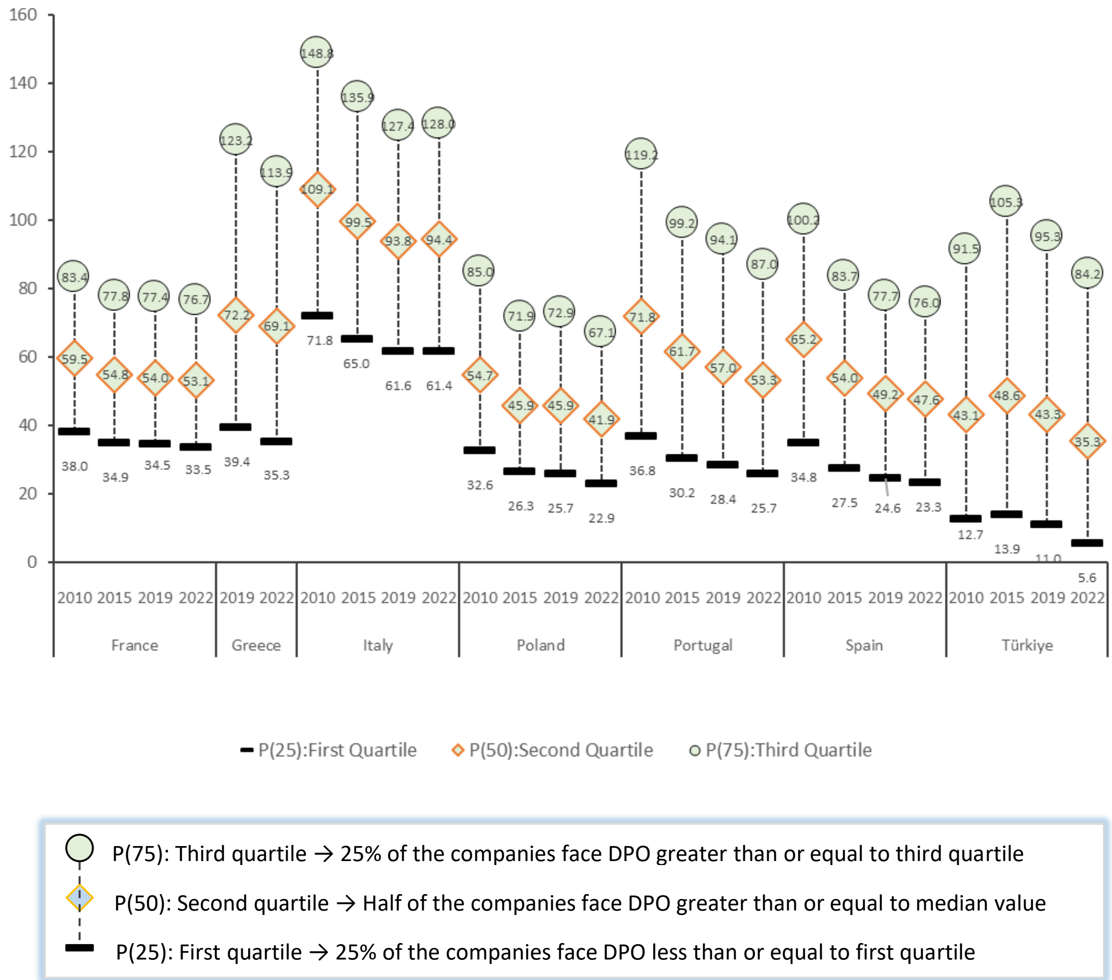


P(75): Third quartile → 25% of the companies face DPO greater than or equal to third quartile

P(50): Second quartile → Half of the companies face DPO greater than or equal to median value

P(25): First quartile → 25% of the companies face DPO less than or equal to first quartile

Figure 8 - Quartiles of the DPO distribution over time by country, (in days)



A similar trend is also visible in the percentage of companies that have payment periods of 90 days and more. The DSO values of these companies have reached low levels compared to the past (Figure 8). The lowest percentage of companies with DSO over 90 days is in Poland, followed by France, and the highest in Italy. Similar conclusions can be reached for DPO (Figure 11).

Figure 9 - Percentage of companies with DSO over 90, by country (in days)

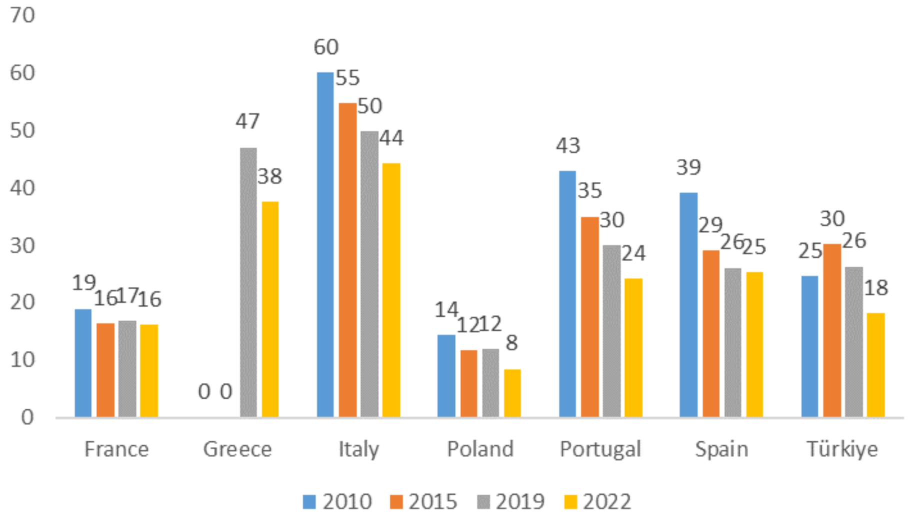
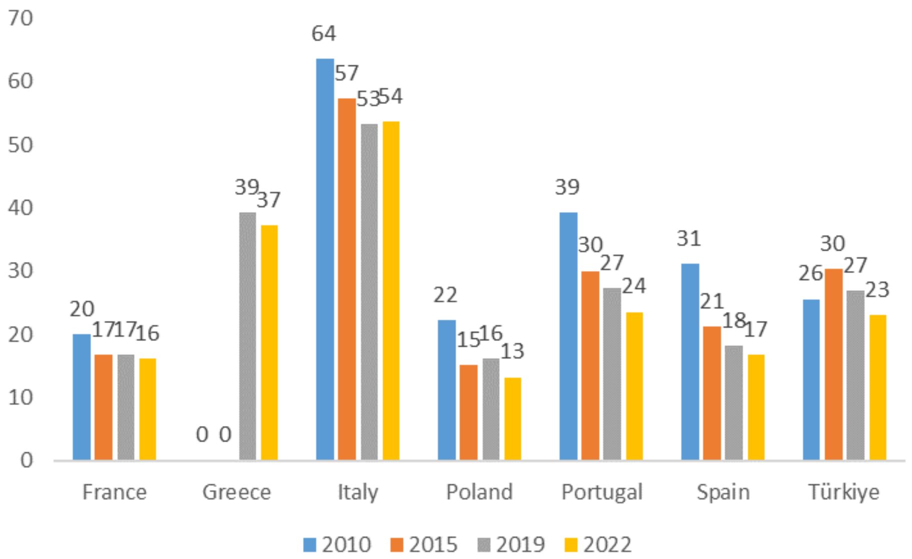


Figure 10 - Percentage of the companies DPO over 90, by country (in days)



Annexes

Annex I: Methodology

Data description

Like previous analyses of the FSA WG, this report is based on extensive samples of financial statements included in the databases managed by each country. For this study we have only considered entities belonging to the non-financial sector, which is mainly composed by the legal forms of corporations and cooperatives. By definition, sole proprietors are not included in this study as they are not considered as part of the non-financial sector, according to the *European System of National and Regional Accounts* (ESA 2010).

The database covers a time span ranging from 2000 to 2022, which is the most recent year with available data for all countries. This study uses individual financial statements and focuses on the manufacturing, construction, and trade sectors, because these branches are amongst the most homogeneous ones in terms of activity and market conditions.

This study follows the EU Commission Recommendation concerning the definition of micro, small, medium-sized, and large enterprises, by using the turnover criterion. The thresholds are deflated using the Harmonized Index of Consumer Prices (HICP) of the Euro area. Year 2015 was selected as the base year for calculations. For Poland and Türkiye, the threshold values were converted into the national currencies by using each country's real effective exchange rate versus the euro area-18 trading partners. Micro-corporations have been excluded from the analysis, because these firms are not directly comparable across countries due to different data collection methods and suffer from outliers and ratio volatility.

Ratio Definitions

The FSA WG decided on a net approach (net amount of money exchanged with the clients/suppliers of the companies by prepayments).

Days Sales Outstanding (DSO) is the average number of days the customer receivables are "on the books". The lower DSO, the sooner the firm tends to be paid by its customers.

Numerator	360X (Trade receivables-customer prepayments)
Denominator	Net turnover

Days Payables Outstanding (DPO) is the average number of days a company takes before paying its suppliers. The lower DPO, the faster a company pays its trade credit.

Numerator	360X (Trade payables-advances to suppliers)
Denominator	Purchases

Trade Credit Balance (TCB) is the difference between days sales and days payables outstanding. The lower the TCB, the more successful the company to manage its liquidity.

Numerator	360X [(Trade receivables-customer prepayments)- (Trade payables-advances to suppliers)]
Denominator	Net turnover

Outlier observations are defined as observations that satisfy any of the following conditions:

$$P25(DSO\ or\ DPO) - 6 \times IQR$$

$$P75(DSO\ or\ DPO) + 6 \times IQR$$

where P25: 25^{th} percentile (or first quartile)

P75: 75^{th} percentile (or third quartile)

IQR: Interquartile range (which is equal to P75-P25)

Annex II – Participating countries and sector/size criteria

Participating Countries	Code
France	**FR**
Greece	**GR**
Italy	**IT**
Poland	**PL**
Portugal	**PT**
Spain	**ES**
Türkiye	**TR**

Sector	Code	NACE Rev.2
Manufacturing	**C**	C
Construction	**F**	F*
Trade	**G**	G
Motor Vehicle Trade	**G-45**	G-45
Wholesale Trade	**G-46**	G-46
Retail Trade	**G-47**	G-47
Total	**To**	To

*except F43.1-"Demolition and site preparation"

		Sales Thresholds* in millions of Euros
Micro	**SZ1**	Sales≤€2M
Small	**SZ2**	€2M<Sales≤€10M
Medium	**SZ3**	€10M<Sales≤€50M
Large	**SZ4**	Sales>€50M
Total without Micro	**SZ0**	Sales>€2M

*2015 base year, deflated by HICP (Harmonized Index of Consumer Prices) in each year

Annex III – Number of companies by country and size (2022)

Country	Micro	Small	Medium	Large	Total w/o micro
France	83.489	66.512	19.943	5.886	92.341
Greece	1.435	1.836	896	252	2.984
Italy	109.536	49.099	19.460	5.397	73.956
Poland	5.445	7.732	4.728	2.118	14.578
Portugal	144.483	11.644	2.921	668	15.233
Spain	199.653	24.930	6.016	1.328	32.274
Turkey	327.539	64.385	20.135	5.163	89.683

Annex IV – Number of companies by country and sector (2022, micro companies excluded)

Country	Construction	Manufacturing	Motor Vehicle Trade	Retail Trade	Trade	Wholesale Trade	Total
France	15.573	22.579	7.584	22.981	54.189	23.624	92.341
Greece	201	1.029	125	230	1.754	1.399	2.984
Italy	10.584	33.777	3.450	7.045	29.595	19.100	73.956
Poland	1.766	6.818	590	1.514	5.994	3.890	14.578
Portugal	1.900	4.866	922	2.717	8.467	4.828	15.233
Spain	3.858	10.273	1.995	4.043	18.143	12.105	32.274
Turkey	7.715	30.078	4.633	11.696	51.890	35.561	89.683

Annex V – Maximum suppliers payment period permitted by law

		Maxiumum suppliers payment period (days) permitted by law (B2B)					
Country	**Legislation**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013 and onwards**
France (1)	**Law LME 2008-776**	60	60	60	60	60	60
Greece (2)	**Law 166/2003**	30/60	30/60	30/60	30/60	30/60	30/60
Italy (3)	**Law 1/2012**						60
	Law 192/2012						60
Poland (4)	**Law 139/2003** **Law 403/2013**	30	30	30	30	30	30/60
Portugal (5)	**Law 62/2013**						60
Spain (6)	**Law3/2004**	60	60				
	Law15/2010			85	85	75	60
Türkiye	**Law 6102/2011**				60	60	60

(1) The maximum legal payment period is 30 days for road freight transport and car rental, in accordance of the Law n°2006-10 enacted in 2006. It is 30 and in some cases 20 days for perishable goods.

(2) Law 1/2012 applies to food retailers vs. food producers. Law 192/2012 is the adoption of Directive 2011/7/EU.

(3) From 2013 and onwards, for public companies, the payment period is 60 days, and for private it is 30 days.

(4) Despite the 60 days rule, the Portuguese Law (like the Directive 2011/7/EU) says that there may be circumstances in which undertakings require more extensive payment periods. It should therefore remain possible for the parties expressly agree on payment periods longer than 60 calendar days, provided, however, that such extension is fair to the creditor.

(5) Modified in 2010 response to the economic crisis with high levels of late payments, since it had a low applicability in the business reality.

(6) It should be possible for the parties to expressly agree on payment periods longer than 60 calendar days, if such extension is fair to the creditor. However, the payment period shall not exceed 60 days in cases where the creditor is a small or medium enterprise or an agricultural or animal producer.