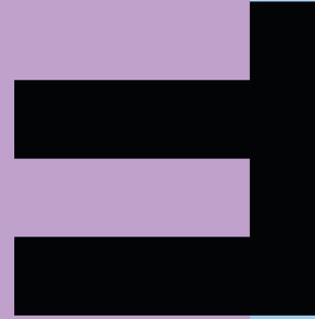


**FHV**

Vorarlberg University  
of Applied Sciences



## **EU Regulation on combating late payment in commercial transactions**

Working capital impact assessment for European firms

BIS/ECCBSO/Banco de España Workshop  
*New Insights from financial statements*  
Madrid, 17 Oct 2024

Markus Federau, Bernd Schwendinger

# Agenda

---

1. EU Regulation
2. Research Objectives & Methodology
3. Sample & KPIs
4. Results
5. Conclusion
6. Remarks regarding statistical producers



# EU Regulation



## Status Quo

- > Directive 2011/7/EU
- > Applicable from 03/2013

### Main Content

- > Standard payment term (PT) of 30 days
- > Max. PT 60 days
- > PT over 60 days possible if...  
...expressly agreed; and  
...not 'grossly unfair'

## Proposed Regulation



- > Proposal by EU Commission in 09/2023
- > Replacement of EU Directive with EU Regulation
- > Adapted and adopted by EU Parliament in 04/2024

### Main Content

- > General PT limit of 30 days in B2B/B2G
- > Increase to max. 60 days in B2B if mutually agreed
- > Increase to max. 60 days for book industry and other slow-moving & seasonal goods
- > No contractual restriction of assignment of receivables for use of financing services possible



# Research Objectives & Methodology

---

## Objectives

- (1) Exploration of historical development
- (2) Analysis of status quo
- (3) Assessment of potential regulatory impact
- (4) Recommendations regarding statistical procedures

## Methodology

- > Group financial statement analysis
- > BACH / OSIRIS data
- > Receivables/payables
- > Days Sales Outstanding (DSO) / Days Payables Outstanding (DPO)
- > Descriptives / U-Tests



# Sample



- > Free aggregated consolidated balance sheet data of non-financial groups (mean, Q1-Q3, min/max)
- > 8 EU countries + Turkey
- > Since 2019 publicly available
- > Pre-defined (proprietary) aggregation: Size, detailed sector, country + sector, total
- > Size: S <250 m€ / M <1,500 m€ / L >=1,500 m€
- > Changing sample composition
- > Analysed period: 2010-2022
- > Varying sample size: 829-1,187 p.a.

## Osiris MOODY'S

- > Individual financial data of publicly listed companies
- > Global coverage
- > Applied filters: EU based + non-financial + IFRS application + rec./payables/sales/cogs >1m€
- > Same size classes selected
- > Stable panel approach
- > Analysed period: 2010-2022
- > Stable panels: 1,011/1,081
- > Year 2022: 2,171/2,170



# KPIs

	 	 
<b>DSO</b>	$\frac{\text{Trade Receivables}}{\text{Daily Average Revenues}}$	$\frac{\text{Accounts Receivable (current)}}{\text{Total Revenues}} \times 360 \text{ days}$
<b>AR in B/S Total</b>	n/a	$\frac{\text{Accounts Receivable (current)}}{\text{Total Assets}}$
<b>DPO</b>	$\frac{\text{Trade Payables}}{\text{Daily Average Revenues}}$	$\frac{\text{Trade Payables}}{\text{Costs of Goods Sold (COGS)}} \times 360 \text{ days}$
<b>AP in B/S Total</b>	n/a	$\frac{\text{Trade Payables}}{\text{Total Liabilities \& Equity}}$

AR: Accounts Receivables / AP: Accounts Payables / B/S: Balance Sheet / DSO: Days Sales Outstanding / DPO: Days Payables Outstanding / n/a: not available



# Results – Longitudinal

## DSO

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Q1	<b>45.4</b>	42.5	41.4	42.1	42.7	42.5	42.7	43.0	40.2	40.6	41.5	41.0	<b>35.6</b>
Q2	<b>68.3</b>	66.3	63.1	63.8	66.6	64.4	66.0	64.7	64.4	62.2	63.9	64.6	<b>59.6</b>
Q3	<b>103.3</b>	104.0	95.8	93.2	95.9	96.9	100.2	98.0	95.2	93.2	95.0	96.8	<b>84.5</b>
Mean	83.3	80.9	77.9	78.2	81.4	88.6	2,525.9	79.7	780.5	85.0	91.5	81.7	68.4
IQR	57.9	61.4	54.5	51.1	53.3	54.5	57.4	55.0	55.0	52.7	53.5	55.8	49.0

- > Reduction in median DSOs
- > Still well above 30/60 days
- > No significance testing possible

## DPO

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Q1	<b>31.9</b>	30.0	28.7	29.5	30.9	30.0	31.2	32.1	34.2	33.1	34.9	38.3	<b>32.6</b>
Q2	<b>48.4</b>	47.9	45.2	46.0	47.8	47.3	47.2	50.4	52.4	52.1	54.3	60.2	<b>52.1</b>
Q3	<b>74.9</b>	75.7	70.5	71.4	73.6	72.8	74.1	76.2	79.8	77.8	84.8	92.0	<b>79.5</b>
Mean	111.7	73.0	63.0	65.5	77.2	1,048	73,692	95.9	99,245	77,951	452.7	100.7	82.0
IQR	43.0	45.8	41.8	41.9	42.7	42.8	43.0	44.1	45.5	44.7	50.0	53.8	46.9

Q1...Q3: quartile 1...3 / IQR: interquartile range

- > Increase in DPOs
- > High distortion of data by outliers
- > Impossibility to proxy payment periods



# Results – Size 2022

DSOs [days]				DPOs [days]			
	Small	Medium	Large		Small	Medium	Large
Q1	43.7	37.4	32.4	Q1	31.4	31.3	34.8
Q2	<b>71.2</b>	56.8	<b>49.4</b>	Q2	<b>56.4</b>	48.3	<b>53.2</b>
Q3	103.9	80.1	72.8	Q3	86.7	76.3	75.9
Mean	85.6	63.3	56.3	Mean	<b>122.4</b>	59.4	62.9
IQR	60.1	42.8	40.5	IQR	55.3	45.0	41.1

- > Notable difference in DSOs small vs. large
- > Potentially through bargaining power or different customer structures
- > DPOs only smaller differences

Q1...Q3: quartile 1...3 / IQR: interquartile range



# Results – Longitudinal

## DSO

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Q1	<b>43.2</b>	41.7	40.8	40.8	40.6	40.0	41.4	40.5	39.9	37.9	38.3	39.0	<b>35.0</b>
Q2	<b>62.2</b>	60.9	59.3	59.1	59.0	56.5	59.9	59.6	58.9	56.6	55.1	56.4	<b>52.7</b>
Q3	<b>89.8</b>	<b>88.1</b>	85.0	<b>82.8</b>	84.1	80.8	83.6	81.1	81.7	77.7	77.3	76.9	<b>74.7</b>
Mean	74.2	73.2	70.4	69.4	70.4	68.0	70.3	67.9	66.9	63.2	64.1	65.8	62.2
IQR	46.6	46.4	44.1	42.0	43.4	40.8	42.3	40.6	41.8	39.7	39.0	37.8	39.6

- > Reduction in median DSOs by 9.5 days ( $p < 0.001^*$ )
- > Highest decrease of Q3 between 2011 and 2013

## AR in B/S Total

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Q1	<b>10.2%</b>	10.2%	10.0%	9.7%	9.3%	9.0%	9.3%	9.4%	9.1%	7.7%	7.1%	7.7%	<b>7.7%</b>
Q2	<b>16.3%</b>	16.4%	15.7%	15.3%	15.3%	14.9%	15.0%	15.2%	14.7%	13.4%	12.0%	12.5%	<b>13.1%</b>
Q3	<b>24.1%</b>	24.0%	23.1%	23.0%	22.9%	22.4%	22.5%	22.7%	21.9%	19.8%	18.1%	18.3%	<b>19.2%</b>
Mean	18.5%	18.6%	18.1%	17.7%	17.5%	17.2%	17.2%	17.2%	16.8%	15.2%	13.9%	14.3%	14.8%
IQR	13.9%	13.8%	13.1%	13.3%	13.6%	13.4%	13.2%	13.3%	12.8%	12.1%	10.9%	10.6%	11.5%

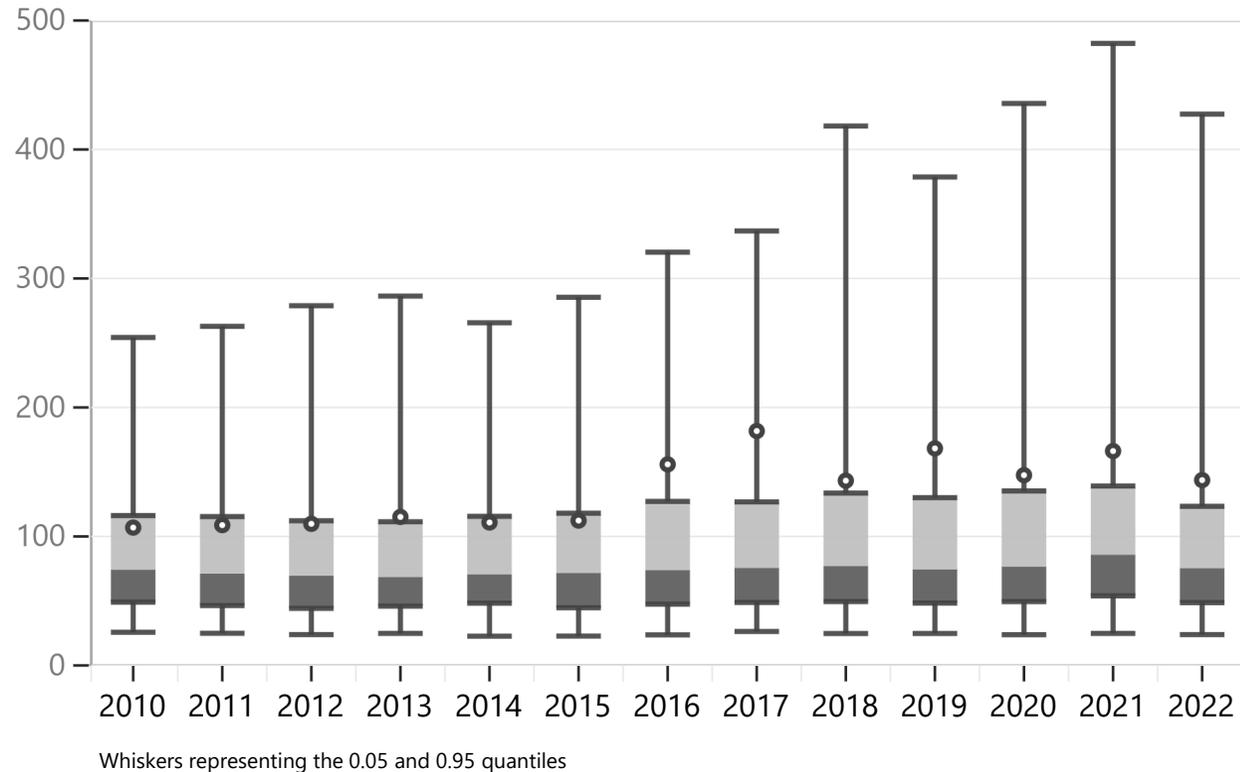
B/S: balance sheet / Q1...Q3: quartile 1...3 / IQR: interquartile range

- > Reduction in median AR ratios by 3.2 ppt ( $p < 0.001^*$ )
- > Efficient receivables mgmt. freeing up WC



# Results – Longitudinal

## DPO



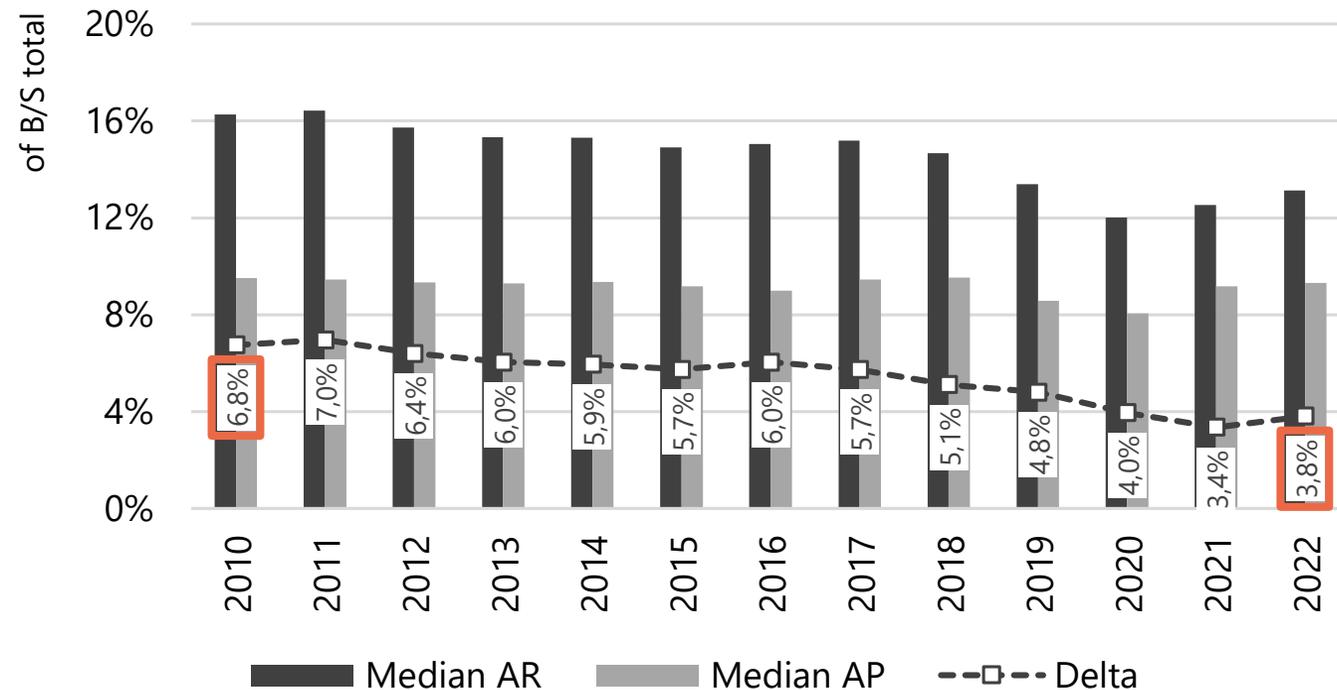
- > Slight but significant increase in median DPOs +1.1 days ( $p < 0.001^*$ )
- > Steep increase of DPOs of Q4

\* Mann-Whitney-U-Test, two-sided, paired



# Results – Longitudinal

## AR vs. AP in B/S Total



- > Overall freeing up of NWC over time
- > Reduction of gap between AR/AP by 3 ppts



# Results – Size 2022

DSOs [days]			
	Small	Medium	Large
Q1	41.6	30.2	29.6
Q2	<b>63.6</b>	49.9	<b>45.1</b>
Q3	93.1	68.5	65.1
Mean	103.4	52.8	51.1
IQR	51.4	38.3	35.5

Accounts receivables of B/S total			
	Small	Medium	Large
Q1	8.0%	6.7%	6.5%
Q2	<b>14.5%</b>	13.2%	<b>10.3%</b>
Q3	23.0%	18.4%	15.0%
Mean	16.9%	13.8%	11.9%
IQR	15.0%	11.7%	8.4%

DPOs [days]			
	Small	Medium	Large
Q1	52.6	43.1	50.9
Q2	<b>86.1</b>	70.6	<b>80.2</b>
Q3	157.3	122.7	130.9
Mean	190.7	253.9	164.6
IQR	104.8	79.6	80.0

Trade payables of B/S total			
	Small	Medium	Large
Q1	4.9%	5.3%	6.5%
Q2	<b>9.1%</b>	9.8%	<b>10.6%</b>
Q3	15.5%	15.7%	16.4%
Mean	12.3%	12.0%	12.6%
IQR	10.6%	10.5%	9.9%

Q1...Q3: quartile 1...3 / IQR: interquartile range

- > DSOs large vs. small  
-18.5 days  
( $p < 0.001^*$ )
- > 4.2 pts less WC tied  
in receivables  
( $p < 0.001^*$ )
- > Smaller difference in  
DPOs of -5.9 days  
( $p = 0.052^*$ )

\* Mann-Whitney-U-Test, two-sided, unpaired



# Conclusion

---

1. EU regulation upcoming but still pending
2. Similar results based on ERICA / OSIRIS samples
3. Collection periods decreased significantly but still well above 30-day target
4. Larger companies benefiting from shorter collection periods
5. No longer DPOs for large vs. small companies
6. Review of payment terms for companies and preparation for upcoming regulation recommended



# Remarks regarding statistical producers

---

## Limitations of ERICA usage in benchmarking and scientific research

1. Long update cycle; some 2022 data still missing
2. No panel data available
3. Definition of pre-calculated ratios not public  
→ *Possible Solution:*  
Include ratio definitions in ERICA documentation
4. Only pre-defined aggregations (e.g. size, industry) possible  
→ *Possible Solution:*  
Continuing of aggregated data only but with dynamic filtering capabilities
5. No possibility of hypothesis testing  
→ *Possible Solution:*  
Add std. dev. or rank sums to sub-samples
6. Only absolute B/S & P+L figures available  
→ *Possible Solution:*  
Add ratios (% of B/S total or % of sales)



# Resources

---

- > Banque de France. (n.d.). *ERICA (European Records of IFRS Consolidated Accounts) database*. <https://www.bach.banque-france.fr/>
- > Brealey, R., Myers, S., Allen, F., & Edmans, A. (2022). *Principles of Corporate Finance* (14th ed.). McGraw Hill.
- > European Commission. (2020). *User guide to the SME Definition*. <https://ec.europa.eu/docsroom/documents/42921/attachments/1/translations/en/renditions/native>
- > European Commission. (2023). *Proposal for a regulation of the European Parliament and of the council on combating late payment in commercial transactions, COM(2023) 533 final*. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52023PC0533>
- > European Committee of Central Balance Sheet Data Offices (ECCBSO). (2023). *ERICA User Guide Summary*. European Committee of Central Balance Sheet Data Offices (ECCBSO). <http://www.bach.banque-france.fr>
- > European Committee of Central Balance Sheet Data Offices (ECCBSO). (2024, February). *ERICA User's Guide*. ECCBSO. [https://www.eccbso.org/system/files/2024-02/ERICA\\_users\\_guide\\_2022\\_data\\_F.pdf](https://www.eccbso.org/system/files/2024-02/ERICA_users_guide_2022_data_F.pdf)
- > European Parliament. (2024a). *P9\_TA(2024)0299: European Parliament legislative resolution of 23 April 2024 on the proposal for a regulation of the European Parliament and of the Council on combating late payment in commercial transactions (COM(2023)0533 – C9-0338/2023 – 2023/0323(COD))*. [https://www.europarl.europa.eu/doceo/document/TA-9-2024-0299\\_EN.pdf](https://www.europarl.europa.eu/doceo/document/TA-9-2024-0299_EN.pdf)
- > European Parliament. (2024b). *Procedure file 2023/0323(COD) - Commercial transactions: Combating late payment*. <https://oeil.secure.europarl.europa.eu/oeil/popups/printficheglobal.pdf?id=746469&l=en>
- > European Union (2011). *Directive 2011/7/EU of the European Parliament and of the Council of 16 February 2011 on Combating Late Payment in Commercial Transactions*. Official Journal of the European Union, L48, 1-10. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32011L0007>
- > Eurostat. (2008). *NACE Rev. 2: Statistical classification of economic activities in the European Community*. <https://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.pdf>
- > Federau, M. (2024). Zahlungsziele und Net Working Capital. *Corporate Finance*, 15(05–06), 109–115.
- > Högerle, B., Charifzadeh, M., Ferencz, M., & Kostin, K. (2020). The development of working capital management and its impact on profitability and shareholder value: Evidence from Germany. *Strategic Management*, 25(2), 27–39. <https://doi.org/10.5937/StraMan2002027H>
- > IAS 2: Inventories (2003). <https://www.ifrs.org/content/dam/ifrs/publications/pdf-standards/english/2021/issued/part-a/ias-2-inventories.pdf>
- > Le, B. (2019). Working capital management and firm's valuation, profitability and risk: Evidence from a developing market. *International Journal of Managerial Finance*, 15(2), 191–204. <https://doi.org/10.1108/IJMF-01-2018-0012>
- > Moody's Analytics. (n.d.). *Orbis*. Retrieved 1 September 2024, from <https://www.moody.com/web/en/us/capabilities/company-reference-data/orbis.html>
- > Sagner, J. S. (2014). *Working Capital Management: Applications and Case Studies*. John Wiley & Sons.
- > Singh, H. P., Kumar, S., & Colombage, S. (2017). Working capital management and firm profitability: A meta-analysis. *Qualitative Research in Financial Markets*, 9(1), 34–47. <https://doi.org/10.1108/QRFM-06-2016-0018>



# Thank you

## Q&A

