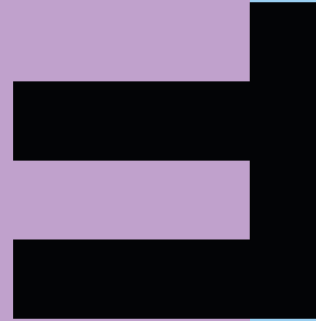


FHV

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

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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

	  	Osiris MOODY'S
DSO	$\frac{\text{Trade Receivables}}{\text{Daily Average Revenues}}$	$\frac{\text{Accounts Receivable (current)}}{\text{Total Revenues}} \times 360 \text{ days}$
AR in B/S Total	n/a	$\frac{\text{Accounts Receivable (current)}}{\text{Total Assets}}$
DPO	$\frac{\text{Trade Payables}}{\text{Daily Average Revenues}}$	$\frac{\text{Trade Payables}}{\text{Costs of Goods Sold (COGS)}} \times 360 \text{ days}$
AP in B/S Total	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	45.4	42.5	41.4	42.1	42.7	42.5	42.7	43.0	40.2	40.6	41.5	41.0	35.6
Q2	68.3	66.3	63.1	63.8	66.6	64.4	66.0	64.7	64.4	62.2	63.9	64.6	59.6
Q3	103.3	104.0	95.8	93.2	95.9	96.9	100.2	98.0	95.2	93.2	95.0	96.8	84.5
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	31.9	30.0	28.7	29.5	30.9	30.0	31.2	32.1	34.2	33.1	34.9	38.3	32.6
Q2	48.4	47.9	45.2	46.0	47.8	47.3	47.2	50.4	52.4	52.1	54.3	60.2	52.1
Q3	74.9	75.7	70.5	71.4	73.6	72.8	74.1	76.2	79.8	77.8	84.8	92.0	79.5
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	71.2	56.8	49.4	Q2	56.4	48.3	53.2
Q3	103.9	80.1	72.8	Q3	86.7	76.3	75.9
Mean	85.6	63.3	56.3	Mean	122.4	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	43.2	41.7	40.8	40.8	40.6	40.0	41.4	40.5	39.9	37.9	38.3	39.0	35.0
Q2	62.2	60.9	59.3	59.1	59.0	56.5	59.9	59.6	58.9	56.6	55.1	56.4	52.7
Q3	89.8	88.1	85.0	82.8	84.1	80.8	83.6	81.1	81.7	77.7	77.3	76.9	74.7
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	10.2%	10.2%	10.0%	9.7%	9.3%	9.0%	9.3%	9.4%	9.1%	7.7%	7.1%	7.7%	7.7%
Q2	16.3%	16.4%	15.7%	15.3%	15.3%	14.9%	15.0%	15.2%	14.7%	13.4%	12.0%	12.5%	13.1%
Q3	24.1%	24.0%	23.1%	23.0%	22.9%	22.4%	22.5%	22.7%	21.9%	19.8%	18.1%	18.3%	19.2%
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%

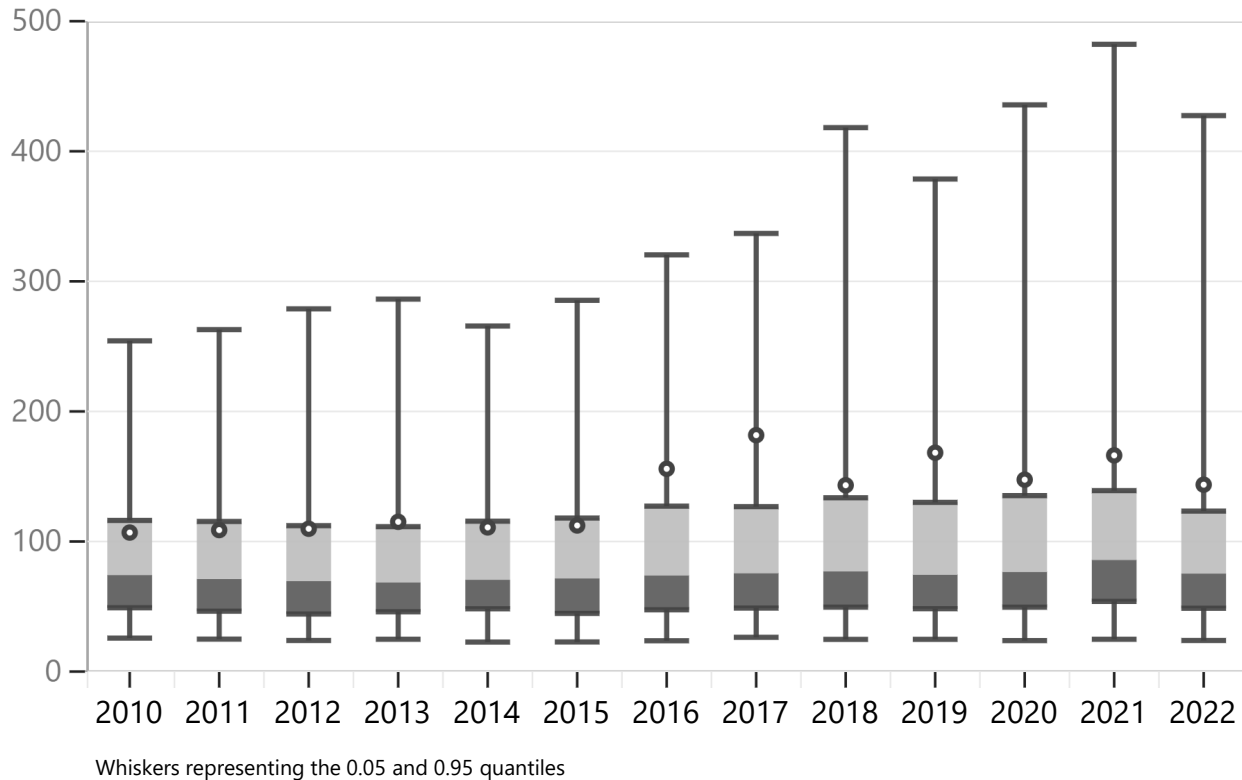
B/S: balance sheet / Q1...Q3: quartile 1...3 / IQR: interquartile range

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



Results – Longitudinal

DPO



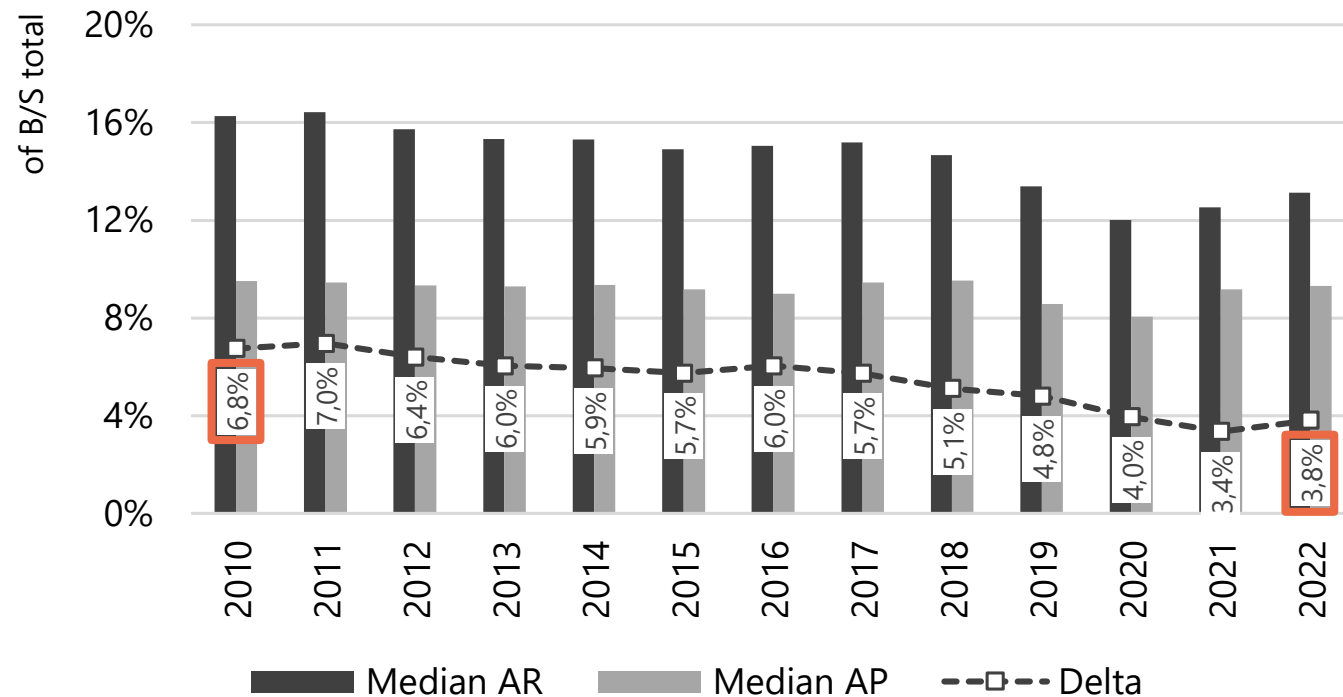
- > Slight but significant increase in median DPOs +1.1 days ($p < 0.001^*$)
- > Steep increase of DPOs of Q4

* 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	63.6	49.9	45.1
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	14.5%	13.2%	10.3%
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	86.1	70.6	80.2
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	9.1%	9.8%	10.6%
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 ppts 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

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Thank you

Q&A

