

DEFAULT AND RECOVERY STATISTICS

**PUBLIC LENDING
1994-2024**

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1994-2024**

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Preface

The Global Emerging Markets Risk Database Consortium (GEMs) is a joint initiative between the European Investment Bank and the International Finance Corporation; it was established in 2009 to pool credit risk data. This database is a unique example of a tangible common good and is designed to catalyse investments in emerging markets and support technical cooperation between international institutions. GEMs serves as a discussion and collaboration forum for building technical alignment and sharing best practices among member institutions through working-level meetings. GEMs comprises multilateral development banks (MDBs) and development finance institutions (DFIs) with business activities in emerging markets and developing economies.

GEMs collects de-identified data from MDBs and DFIs on their performing and non-performing exposures across emerging markets and developing economies, based on which output statistics are produced, encompassing default and recovery rates that are categorised by various dimensions, such as geography, sector and income group, among others. Compiling GEMs risk statistics relies on a robust and shared methodological framework, bringing together data and expertise from leading public institutions. GEMs offers:

- ✓ **a risk data hub of contract-level information** for private and public lending and sovereign and sovereign-guaranteed lending – one of the largest such datasets for emerging markets and developing economies;
- ✓ **a trusted data collection and processing platform** hosting a scalable data model, which could be expanded to cover other contract-level data related to investment projects;
- ✓ **a statistical platform for member MDBs and DFIs**, with the ability to calculate GEMs outputs, default rates, recovery rates and rating migrations, facilitating better-informed investment decisions in emerging markets and developing economies;
- ✓ **a public good data source for aggregated statistics**, with the reported default and recovery rates for private, public and sovereign/sovereign-guaranteed lending providing an anchor for risk perceptions;
- ✓ **a framework for collaboration among member MDBs and DFIs** to improve risk management practices across the industry.

More private investment is needed to combat climate change and achieve the Sustainable Development Goals. Global institutions need to work together to address some of the current barriers to these private investments. Some key barriers include, for instance, insufficient support for preparing well-designed projects; minimal coordination between countries and institutions to facilitate the use of public resources to mitigate risks; a lack of an appropriate legal and contractual environment; and a shortage of standardisation, transparency and data availability. The scarcity of data around emerging markets and developing economies, coupled with the tightening of regulatory requirements, calls for sophisticated risk management practices and more reliable metrics.

Through GEMs, member MDBs and DFIs address the investment gap by sharing their experience and market knowledge among themselves and with investors and the broader public. These banks and institutions pool their data using a harmonised template and generate more valuable statistics than those available to any individual lending institution. GEMs is thus a comprehensive data source for current and potential investors in emerging markets – one that helps refine risk perceptions and inform better decision-making.

The scarcity of accessible, standardised, transparent and high-quality information on investment projects in emerging markets can skew risk perceptions and lead to suboptimal investment decisions. Institutions with little or no experience in such markets must rely on risk assumptions based on limited public information. By anchoring risk perceptions with actual statistics, GEMs aims to help unlock capital that can fill such investment gaps.

The statistics produced by GEMs enable the calibration and benchmarking of internal models, leading to efficient provisioning, greater accuracy in setting capital requirements and better-informed investment decisions. In other words, GEMs statistics provide an objective, reliable and statistically significant basis for discussing regulatory compliance, capital adequacy and risk management practices with auditors, rating agencies and supervisors. Furthermore, the statistics can be a powerful tool for transparent assessment of portfolio risks when third parties engage in risk transfer or co-financing operations with MDBs or DFIs, or in any other balance sheet optimisation initiative – thus supporting the crowding-in of additional funding for emerging markets.

Since 2021, GEMs has shared its aggregated statistics publicly, recognising the potential value for various stakeholders, ranging from academics to regulators and commercial entities. This report builds on past publications, combining and offering default and recovery statistics in greater detail and reflecting the contributing institutions' lending profiles in emerging markets and developing economies. The report discloses statistics derived from pooled GEMs data from 1994 to 2024, provided by 16 member institutions. It also encompasses niche features and unique insights and covers the methodological framework for generating GEMs statistics.

Specific applications of GEMs statistics may vary across institutions. GEMs welcomes feedback from readers of this report and looks forward to working with financial stakeholders to improve the focus and content of future publications, aiming to support new and sustainable investment where it is most needed.

GEMs member institutions participating in this publication:



1 Highlights

The figures and tables in this report provide insights into the composition of the dataset for public lending, defined as lending to entities that are at least 50% state-owned. (Unlike in previous years, private and public lending are now covered in two separate reports. Read about private lending here: [Multilateral development banks and development finance institutions default and recovery statistics: Private lending 1994-2024](#)). While the structure and content of the two reports are closely aligned, this report omits certain graphics and tables included in the private lending report, due to a more limited number of data points available in some areas.

As in previous editions, this report presents a wide range of statistics, providing detailed analysis of the dataset and distinguishing between the default and recovery rate results. It also includes enhanced insights across specific cross-dimensions, such as default and recovery rates by income groups and regions or by World Bank regions and sectors, based on the feedback collected since October 2024.

Statistical metrics are included on the underlying distributions of results, allowing readers to gauge the significance of the averages presented for default and recovery rates. As default rate distributions mainly follow a normal distribution, 90% confidence intervals are supplied for all averages. In contrast, distribution percentiles are provided for recovery rates – where the distributions are heavily skewed.

The number of counterparties and the size of lending have increased compared with the previous edition of this report ([Default and recovery statistics: Private and public lending 1994-2023](#)). Over the 1994-2024 reporting period, public counterparties exhibited an overall default rate of 2.61% (90% confidence interval: 2.15%, 3.06%), which is comparable to the result in the previous report (5.59%). (See Table 1 ; for more information about the GEMs methodology, refer to Section 3.)

Table 1: Overall average default rate

Counter-parties	Observed years	Number of defaults	Number of observations	Signed amount € million	Lower of 90% confidence interval	Average default rate	Upper of 90% confidence interval
1 181	31	286	10 977	178 703	2.15%	2.61%	3.06%

The downward trend in default rates reflects a decline in defaults as a percentage of active counterparties and is shown in Figure 1. Public counterparties recorded a lower average default rate between 2004 and 2013 compared with the previous decade, with the trend continuing to decline through 2014-2024. The impact of the COVID-19 pandemic is clearly observable in 2020, as defaults increased by more than 50% compared with the previous year.

Figure 1: Annual default rates

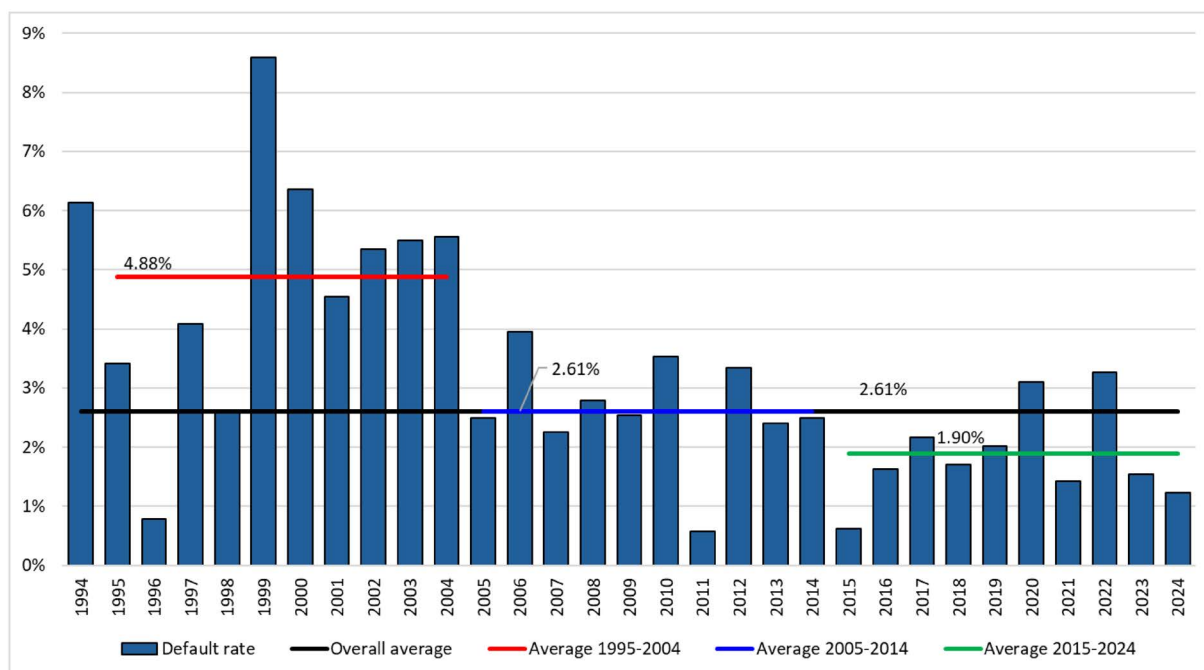


Table 2 provides additional insights into default rate patterns by jointly examining the World Bank regions and sector groupings. The highest default rate is observed in sub-Saharan Africa's banking sector, while the lowest default rate is observed in Latin America and the Caribbean's non-financial institutions sector.

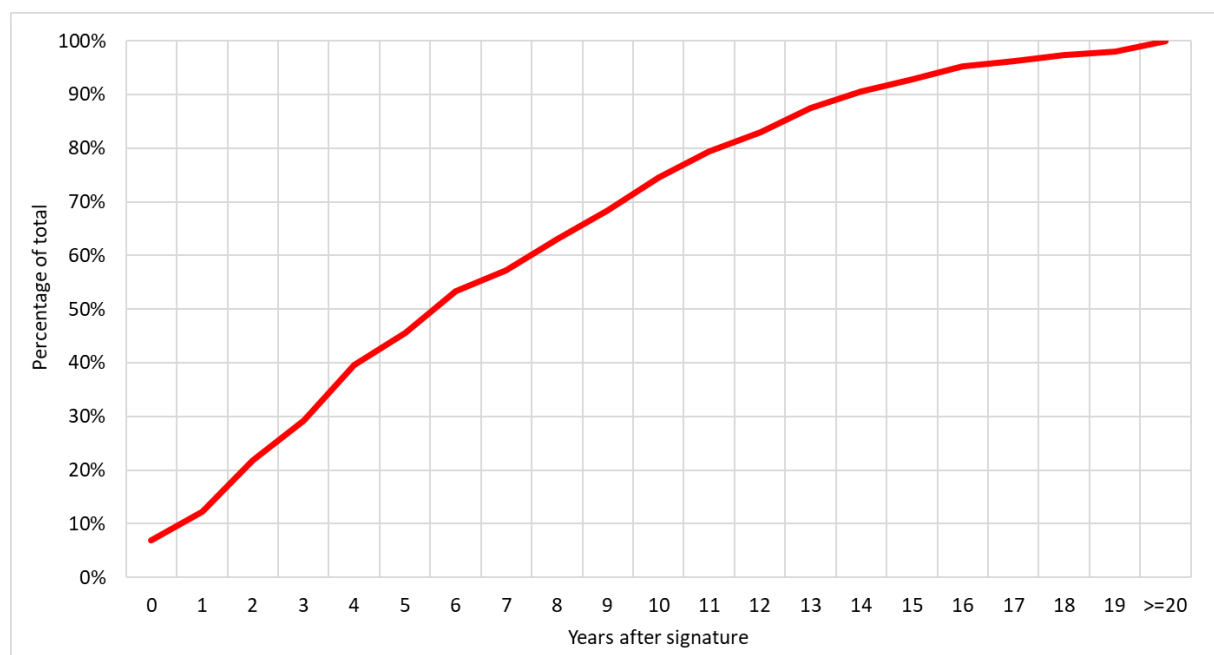
Table 2: Default rates by World Bank region and sector groupings

World Bank region	Item	Financial institutions	Non-financial institutions	Banking	Infrastructure	Non-bank Financials	Renewables	Services
East Asia & Pacific	Lower of 90% CI *	1.30%	1.82%					
	Default rate	3.75%	4.31%					
	Upper of 90% CI	6.19%	6.80%					
Europe & Central Asia	Lower of 90% CI	0.35%	0.52%	0.27%	0.76%	0.00%		0.73%
	Default rate	1.16%	1.05%	1.16%	1.63%	1.18%		2.43%
	Upper of 90% CI	1.98%	1.59%	2.05%	2.49%	2.38%		4.13%
Latin America & Caribbean	Lower of 90% CI	0.95%	0.45%	1.86%	0.07%	0.04%		0.00%
	Default rate	2.46%	1.38%	3.83%	1.17%	0.47%		0.82%
	Upper of 90% CI	3.97%	2.31%	5.81%	2.27%	0.89%		1.88%
Middle East & North Africa	Lower of 90% CI	0.48%	0.97%	0.58%	0.51%			
	Default rate	1.79%	1.94%	2.50%	1.72%			
	Upper of 90% CI	3.09%	2.91%	4.42%	2.92%			
South Asia	Lower of 90% CI							
	Default rate							
	Upper of 90% CI							
Sub-Saharan Africa	Lower of 90% CI	3.64%	4.08%	4.18%	3.71%	1.56%		3.04%
	Default rate	5.21%	5.21%	6.37%	4.96%	3.51%		4.58%
	Upper of 90% CI	6.78%	6.34%	8.56%	6.20%	5.47%		6.11%

*Confidence interval

Figure 2 shows the time to default for counterparties with a history of default. On average, 50% of the defaults occur within the first six years, while less than 15% occur within the first two years.

Figure 2: Time to default



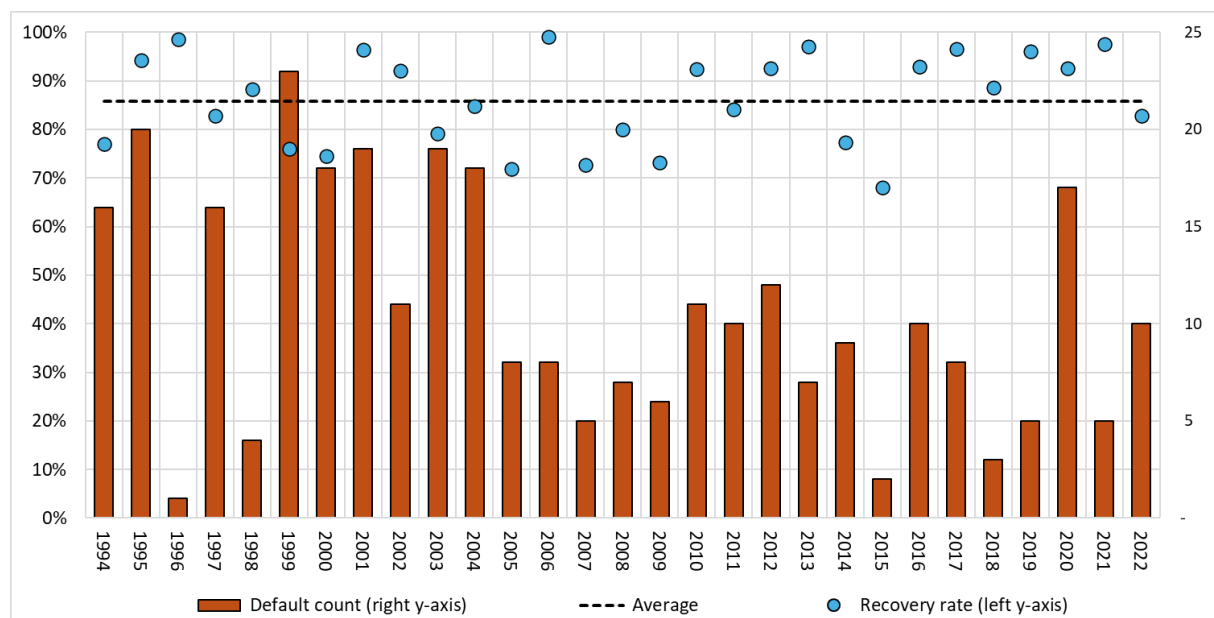
The recovery rates¹ for contracts with public counterparties exhibit an average recovery rate of 85.8% and a median of 98.5% (Table 3). These high recovery rates can be attributed to the implicit state guarantees that these borrowers often benefit from.

Table 3: Overall average recovery rate

Number of defaults	Signed amount € million	Average recovery rate	Minimum observation	10th percentile	25th percentile	Median	75th percentile	90th percentile	Maximum observation
308	5 615	85.8%	0.0%	52.1%	85.3%	98.5%	100.0%	100.0%	100.0%

Figure 3 presents an overview of the recovery rates (1994-2022) based on the defaults that occurred within each year. Annual recovery rates have remained relatively stable over time, fluctuating only around the long-term average, although with varying numbers of defaults each year. There are no data for 2023 and 2024 since the contracts that defaulted during this period have not yet been resolved.

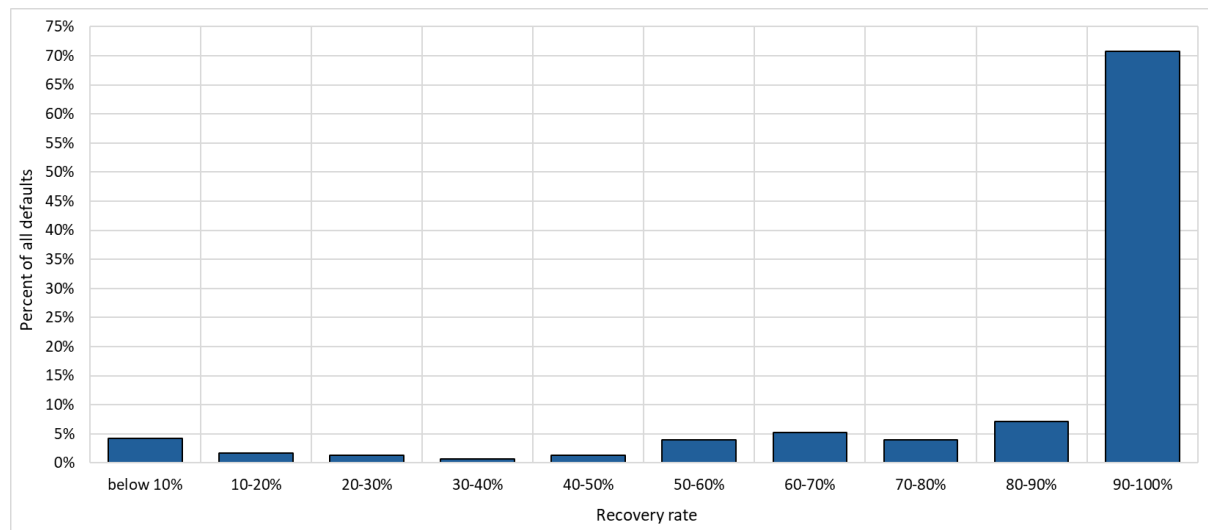
Figure 3: Annual recovery rates



¹ Recovery rates are calculated at the contract level, as described in Section 4.1, and are based on a 31-year historical dataset. The GEMs database includes 308 defaulted contracts involving public counterparties.

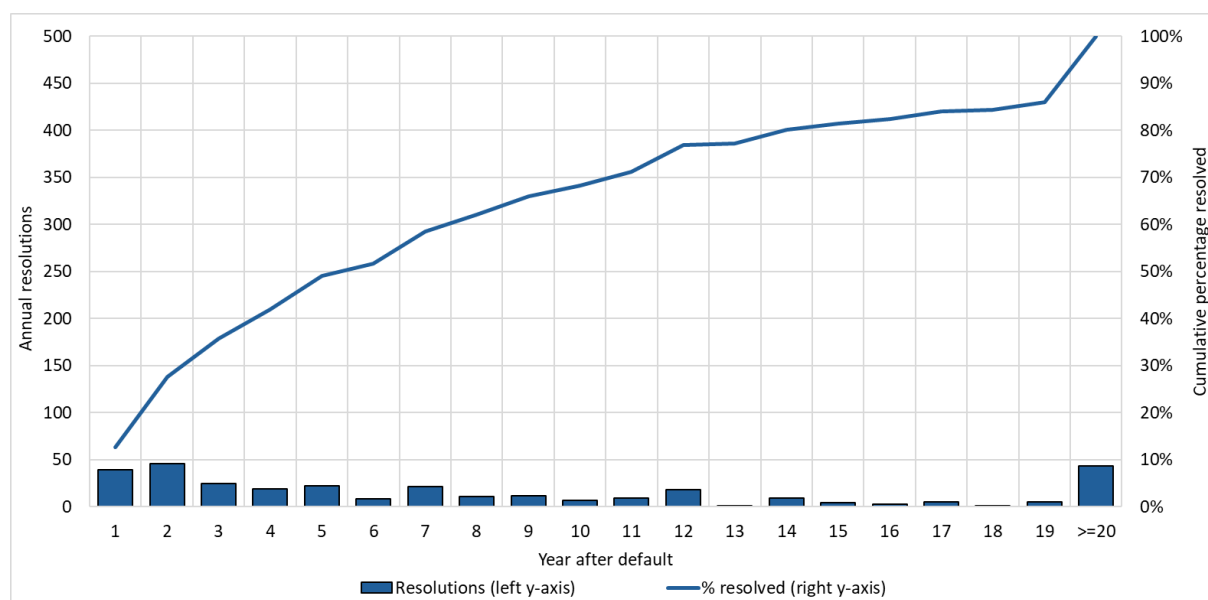
Figure 4 illustrates the distribution of the recovery rate by each 10% bucket. More than two-thirds of the defaulted contracts have recovery rates greater than 90%, with fewer than 5% of defaults resulting in losses exceeding 90% of the due amounts.

Figure 4: Distribution of recovery rates



As observed in Figure 5, 50% of contracts are resolved within the first five years. Overall, the cumulative number of resolved contracts increases at a gradually slowing pace over time, indicating that the number of newly resolved cases decreases each year. However, 14% of the contracts have time to resolution superior to 19%.

Figure 5: Time to resolution of defaults



2 Characteristics of the public counterparty dataset

2.1 Definition

The GEMs risk database collects credit information on standard debt products of member multilateral development banks and development finance institutions. This report focuses on public counterparties, which include public entities such as municipalities and companies that are at least 50% state-owned. Separate reports are published in parallel, covering statistics for private counterparties and for sovereign and sovereign-guaranteed lending.

For ease of reporting, this publication excludes equity and non-standard lending products, observations from countries outside the World Bank Group regional classification system, regional projects that cannot be assigned to a single country, and operations provided by GEMs member institutions on behalf of third parties.

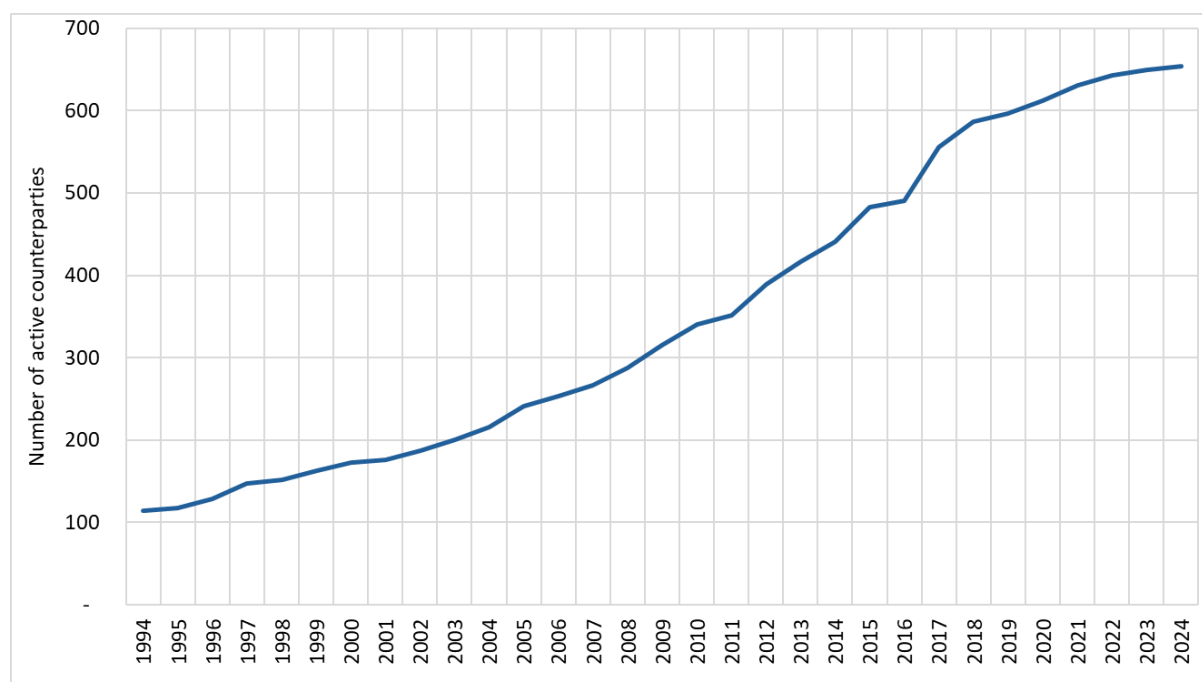
2.2 Counterparties in the dataset

Table 4 gives an overview of the composition of the public counterparty dataset, highlighting the number of active counterparties per year, which has shown a positive trend since 1994. Figure 6 illustrates a gradual deceleration of the marginal yearly growth.

Table 4: Dataset composition

Item	Count
Counterparties	1 181
Contracts	2 386
Defaulted counterparties	286
Contracts for recovery rates	308

Figure 6: Active counterparties for observation period



3 Default rate statistics

3.1 Default rate methodology

3.1.1 Definition

A default event can occur in seven ways:

- non-payment beyond 90 days of the loan being due;
- a specific provision raised for a contract;
- write-off of an outstanding amount (full or partial);
- agreement to pre-emptive restructuring;
- agreement to distressed restructuring;
- the borrower entering bankruptcy;
- realisation of the loan's security.

3.1.2 Calculations

Default rates are calculated at the counterparty level. During each year of the reporting observation period, counterparties can either default or exit a portfolio (that is, maturing contractual obligations). The number of active counterparties is determined at the beginning of each year. The average annual default rate is calculated based on a weighted average that considers the number of observations. This approach is aimed at moderating the impact of outliers compared with the (unweighted) mean of the annual default rates.

Annual default rates are calculated as:

Equation 1: Annual default rate for year i

$$x_i = \frac{d_i}{w_i}$$

Where:

d_i = Number of new defaults of counterparties during year i

w_i = Number of performing counterparties as of 1 January of year i

Annual default rates are averaged using the number of performing counterparties as of 1 January of each year as weights:

Equation 2: Average annual default rate

$$\bar{x}^* = \frac{\sum_{i=1}^N w_i x_i}{\sum_{i=1}^N w_i}$$

Where:

N = Number of years

Weighted standard deviations of annual default rates are calculated using the number of performing counterparties as of 1 January of each year as weights:

Equation 3: Standard deviation of annual default rates

$$\sigma = \sqrt{\frac{\sum_{i=1}^N w_i (x_i - \bar{x}^*)^2}{\frac{(N-1)}{N} \sum_{i=1}^N w_i}}$$

Where:

N = Number of years

w_i = Number of performing counterparties as of 1 January of year i

x_i = Default rate for year i

\bar{x}^* = Weighted mean of the annual default rates

Assuming default rates are normally distributed, the confidence intervals around the averages are determined as:

Equation 4: Confidence intervals for annual default rates

$$CI_{upper} = \bar{x}^* + z * \frac{\sigma}{\sqrt{N}}$$

$$CI_{lower} = \bar{x}^* - z * \frac{\sigma}{\sqrt{N}}$$

Where:

$z^* = z^*$ = -value from the standard normal distribution for the chosen confidence interval

3.1.3 Output parameters

To ensure the significance of the resulting default rate statistics, each disclosed table or figure must meet the following requirements:

- The minimum number of counterparties for each bucket in the reporting dimension is ten.
- The minimum number of active years for each bucket in the reporting dimension is five.

No values are disclosed if the predefined threshold is not met. The average recovery rates shown represent simple averages of the observations in the respective dimensions and categories.

The confidence levels provided across the different figures along the mean values supply insights into the distribution of the underlying data dimension category.

3.2 Overall default rate results

Table 5 presents the annual default rates. The increase in signed amounts after 2016 may be attributed to expanding operations in emerging markets and developing economies by GEMs members, as reported in the data submission content. The downward trend in default rates reflects the lower number of defaults as a percentage of active counterparties. A lower average default rate is observed between 2004 and 2013, compared with the previous decade, with a continued decline from 2014 to 2024. The impact of the COVID-19 pandemic is evident in 2020, when defaults increased by 54% compared with the previous year.

Table 5: Annual default rates

Year	Signed amount € million	Number of defaults	Active counterparties	Default rate
1994	9 403	7	114	6.14%
1995	12 284	4	117	3.42%
1996	14 616	1	129	0.78%
1997	16 118	6	147	4.08%
1998	16 511	4	152	2.63%
1999	17 137	14	163	8.59%
2000	18 508	11	173	6.36%
2001	18 551	8	176	4.55%
2002	21 925	10	187	5.35%
2003	20 557	11	200	5.50%
2004	23 187	12	216	5.56%
2005	30 356	6	241	2.49%
2006	30 285	10	253	3.95%
2007	31 925	6	266	2.26%
2008	34 447	8	287	2.79%
2009	37 322	8	315	2.54%
2010	40 978	12	340	3.53%
2011	43 458	2	351	0.57%
2012	47 695	13	389	3.34%
2013	52 660	10	417	2.40%
2014	55 097	11	441	2.49%
2015	63 880	3	483	0.62%
2016	65 130	8	491	1.63%
2017	95 208	12	556	2.16%
2018	106 033	10	587	1.70%
2019	112 795	12	596	2.01%
2020	118 111	19	612	3.10%
2021	136 453	9	631	1.43%
2022	145 651	21	643	3.27%
2023	149 009	10	650	1.54%
2024	151 225	8	654	1.22%
Overall		286	10 977	2.61%

Table 6 provides an overview of the time to default across different regions. Defaults in sub-Saharan Africa tend to occur more quickly than in other regions (for example, 26% of the defaults happen within the first two years). At an aggregate level, half of all defaults occur within the first six years. The decline in defaults over time can be partially attributed to the smaller number of contracts with longer time horizons.

Table 6: Time to default – regions

Region	Number of defaults																						
	Total	Time of default (years after signature)																					
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	>=20	
East Asia & Pacific	29	1	3	1	1	3	3	3		2		2	2	1	1	1				2		2	
Europe & Central Asia	84		2	8	15	8	6	7	3	8	9	4	3	3	3	4	1					0	
Latin America & Caribbean	31		2	4		3	1	2	2	2	2	4	3		2	2	1					1	
Middle East & North Africa	56	1	2	5	1	4	4	5	3	2	4	3	6	1	3	2	2	5	1	1	1	0	
South Asia																							
Sub-Saharan Africa	332	35	19	33	23	37	18	23	13	17	14	19	12	14	15	8	7	8	4	3	2	8	
All regions	533	37	28	51	40	55	32	41	21	31	29	32	26	19	24	17	12	13	5	6	3	11	

Region	Total defaults	Percentage of total defaults (cumulative)																				
		Time of default (years after signature)																				
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	>=20
East Asia & Pacific	29	3%	14%	17%	21%	31%	41%	52%	52%	59%	59%	66%	72%	76%	79%	83%	86%	86%	86%	93%	93%	100%
Europe & Central Asia	84	0%	2%	12%	30%	39%	46%	55%	58%	68%	79%	83%	87%	90%	94%	99%	100%	100%	100%	100%	100%	100%
Latin America & Caribbean	31	0%	6%	19%	19%	29%	32%	39%	45%	52%	58%	71%	81%	81%	87%	94%	97%	97%	97%	97%	97%	100%
Middle East & North Africa	56	2%	5%	14%	16%	23%	30%	39%	45%	48%	55%	61%	71%	73%	79%	82%	86%	95%	96%	98%	100%	100%
South Asia																						
Sub-Saharan Africa	332	11%	16%	26%	33%	44%	50%	57%	61%	66%	70%	76%	79%	83%	88%	90%	92%	95%	96%	97%	98%	100%
All regions	533	7%	12%	22%	29%	40%	46%	53%	57%	63%	68%	74%	79%	83%	87%	91%	93%	95%	96%	97%	98%	100%

3.3 Default rates by region

3.3.1 Default rates by World Bank region

The country and region assigned to each counterparty in the dataset represent the location of the main legal address of the borrower. The statistics in this section are based on the [World Bank Group classification of countries to regions](#).

The largest number of public borrowers is located in Europe and Central Asia, followed by sub-Saharan Africa. Sub-Saharan Africa also records the highest annual default rate. Meanwhile, the East Asia and Pacific region shows the widest confidence interval, due to the relatively small number of reported counterparties.

Table 7: Default rates by World Bank region

World Bank region	Counter-parties	Observed years	Number of defaults	Number of observations	Signed amount € million	Lower of 90% confidence interval	Average default rate	Upper of 90% confidence interval
East Asia & Pacific	49	31	20	499	3 660	2.43%	4.01%	5.58%
Europe & Central Asia	493	30	47	4 383	39 613	0.55%	1.07%	1.60%
Latin America & Caribbean	137	31	21	1 109	17 640	0.98%	1.89%	2.81%
Middle East & North Africa	126	31	27	1 427	27 091	1.16%	1.89%	2.63%
South Asia	26	31	-	221	2 961	0.00%	0.00%	0.00%
Sub-Saharan Africa	337	31	170	3 265	85 596	4.18%	5.21%	6.24%
Overall, including omitted categories	1 181	31	286	10 977	178 703	2.15%	2.61%	3.06%

Figure 7: Default rates by World Bank region

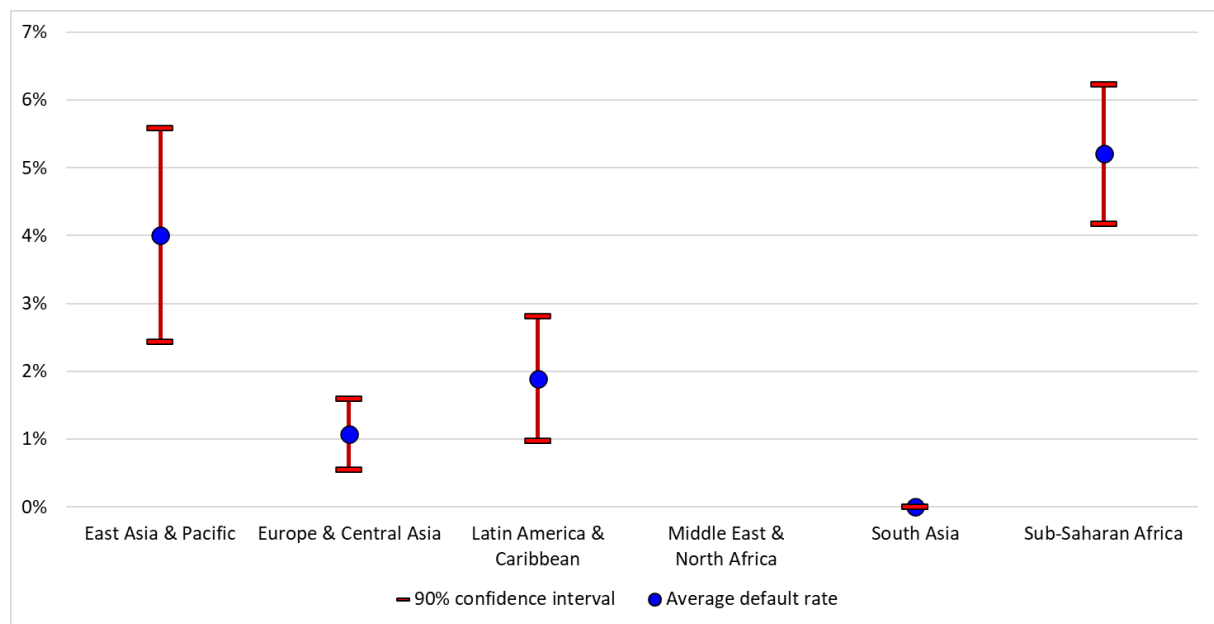


Table 8 presents the annual default rates since 1994 across the World Bank regions.

Table 8: Annual default rates by World Bank region

	East Asia & Pacific	Europe & Central Asia	Latin America & Caribbean	Middle East & North Africa	South Asia	Sub-Saharan Africa
Years	31	30	31	31	31	31
Counterparties	49	493	137	126	26	337
Defaults	20	47	21	27	0	170
Observations	499	4 383	1 109	1 427	221	3 265
Average default rate	4.01%	1.07%	1.89%	1.89%	0.00%	5.21%
1994	0.00%		0.00%	0.00%	0.00%	11.11%
1995	0.00%	0.00%	0.00%	4.76%	0.00%	4.84%
1996	0.00%	0.00%	5.56%	0.00%	0.00%	0.00%
1997	0.00%	0.00%	0.00%	4.00%	0.00%	6.85%
1998	6.25%	5.56%	0.00%	0.00%	0.00%	2.82%
1999	12.50%	4.17%	9.52%	0.00%	0.00%	12.33%
2000	0.00%	0.00%	10.53%	3.13%	0.00%	10.53%
2001	0.00%	0.00%	5.56%	3.23%	0.00%	8.00%
2002	7.14%	0.00%	10.00%	9.09%	0.00%	5.63%
2003	0.00%	0.00%	0.00%	0.00%	0.00%	14.29%
2004	16.67%	0.00%	5.26%	0.00%	0.00%	12.16%
2005	9.09%	0.00%	0.00%	2.44%	0.00%	5.63%
2006	22.22%	0.00%	11.11%	0.00%	0.00%	7.89%
2007	12.50%	0.00%	0.00%	2.56%	0.00%	5.48%
2008	10.00%	0.00%	0.00%	2.50%	0.00%	7.69%
2009	10.00%	0.00%	0.00%	0.00%	0.00%	8.05%
2010	0.00%	1.18%	0.00%	0.00%	0.00%	10.64%
2011	5.88%	0.00%	0.00%	0.00%	0.00%	1.16%
2012	0.00%	2.55%	10.53%	2.04%	0.00%	5.05%
2013	10.00%	0.48%	0.00%	3.70%	0.00%	5.00%
2014	4.55%	1.32%	4.00%	0.00%	0.00%	5.88%
2015	9.52%	0.43%	0.00%	0.00%	0.00%	0.00%
2016	0.00%	0.43%	0.00%	1.75%	0.00%	5.71%
2017	5.56%	0.44%	1.59%	1.64%	0.00%	4.76%
2018	0.00%	0.41%	0.00%	4.55%	0.00%	3.49%
2019	0.00%	0.80%	0.00%	3.03%	0.00%	4.82%
2020	0.00%	0.40%	3.70%	8.82%	0.00%	5.14%
2021	0.00%	0.76%	0.00%	1.47%	0.00%	3.39%
2022	0.00%	7.14%	0.00%	0.00%	0.00%	1.12%
2023	0.00%	2.01%	2.53%	0.00%	0.00%	1.06%
2024	4.55%	0.39%	1.27%	0.00%	0.00%	2.65%

3.3.2 Default rates by continent

Oceania and Africa show the highest default rates, while Europe exhibits the lowest. Overall, default rates have been decreasing over the past decades, with a particularly notable decrease in South America. Year-to-year variation in default rates can be attributed to the number of observations captured annually and to broader economic changes. The mapping of countries to World Bank regions and continents is provided in Annex 1.

Table 9: Annual default rates by continent

	Africa	Asia	Europe	North America	Oceania	South America
Years	31	31	30	31	31	30
Counterparties	432	98	464	74	23	60
Defaults	192	10	45	15	16	6
Observations	4 454	689	4 256	724	301	358
Average default rate	4.31%	1.45%	1.06%	2.07%	5.32%	1.68%
1994	8.64%	0.00%		0.00%	0.00%	0.00%
1995	4.88%	0.00%	0.00%	0.00%	0.00%	0.00%
1996	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
1997	5.15%	16.67%	0.00%	0.00%	0.00%	
1998	2.08%	0.00%	6.67%	0.00%	6.67%	0.00%
1999	9.00%	14.29%	0.00%	10.53%	14.29%	0.00%
2000	8.49%	0.00%	0.00%	11.76%	0.00%	0.00%
2001	6.73%	0.00%	0.00%	6.25%	0.00%	0.00%
2002	6.86%	0.00%	0.00%	11.11%	8.33%	0.00%
2003	10.19%	0.00%	0.00%	0.00%	0.00%	0.00%
2004	8.49%	0.00%	0.00%	5.88%	18.18%	0.00%
2005	4.59%	0.00%	0.00%	0.00%	11.11%	0.00%
2006	5.36%	0.00%	0.00%	11.76%	28.57%	0.00%
2007	4.59%	0.00%	0.00%	0.00%	16.67%	0.00%
2008	6.14%	0.00%	0.00%	0.00%	12.50%	0.00%
2009	5.74%	7.69%	0.00%	0.00%	0.00%	0.00%
2010	7.81%	0.00%	1.20%	0.00%	0.00%	0.00%
2011	0.79%	0.00%	0.00%	0.00%	11.11%	0.00%
2012	4.29%	0.00%	2.58%	15.38%	0.00%	0.00%
2013	4.79%	0.00%	0.49%	0.00%	18.18%	0.00%
2014	4.08%	3.33%	1.35%	0.00%	0.00%	10.00%
2015	0.00%	3.03%	0.44%	0.00%	9.09%	0.00%
2016	4.61%	0.00%	0.44%	0.00%	0.00%	0.00%
2017	3.67%	0.00%	0.44%	2.50%	11.11%	0.00%
2018	4.00%	0.00%	0.42%	0.00%	0.00%	0.00%
2019	4.61%	0.00%	0.81%	0.00%	0.00%	0.00%
2020	5.31%	9.76%	0.00%	2.33%	0.00%	5.71%
2021	3.10%	0.00%	0.78%	0.00%	0.00%	0.00%
2022	0.87%	0.00%	7.34%	0.00%	0.00%	0.00%
2023	0.82%	0.00%	2.09%	0.00%	0.00%	4.88%
2024	2.03%	1.49%	0.42%	3.33%	0.00%	0.00%

3.4 Default rates by sector

3.4.1 Default rates by GICS sector

The dataset is categorised into broad industry sectors based on the [Global Industry Classification Standard \(GICS\)](#) 2018, an established industry framework. In addition, contributing institutions may classify certain counterparties under “administration” and “other.”

Financials account for over 27% of the dataset, with the lowest default rates in the administration and energy sectors and the highest default rate in the communication services sector.

Table 10: Default rates by GICS sector

GICS Sector	Counter-parties	Observed years	Number of defaults	Number of observations	Signed amount € million	Lower of 90% confidence interval	Average default rate	Upper of 90% confidence interval
Administration	145	31	13	1 280	15 675	0.49%	1.02%	1.54%
Communication services	32	31	13	262	1 747	2.79%	4.96%	7.14%
Consumer discretionary	57	31	9	461	16 471	0.35%	1.95%	3.56%
Consumer staples								
Energy	28	31	2	239	4 862	0.00%	0.84%	1.78%
Financials	323	31	81	2 904	51 723	1.94%	2.79%	3.64%
Health care								
Industrials	165	31	41	1 582	40 320	1.90%	2.59%	3.28%
Information technology								
Materials								
Real estate								
Utilities	233	31	87	2 320	37 541	3.07%	3.75%	4.43%
Others	147	27	21	1 448	2 773	0.58%	1.45%	2.32%
Overall, including omitted categories	1 181		286	10 977	178 703	2.15%	2.61%	3.06%

The widest confidence intervals are observed in the communication services and consumer discretionary sectors, primarily due to the smaller number of counterparties included in the database.

Figure 8: Default rates by GICS sector

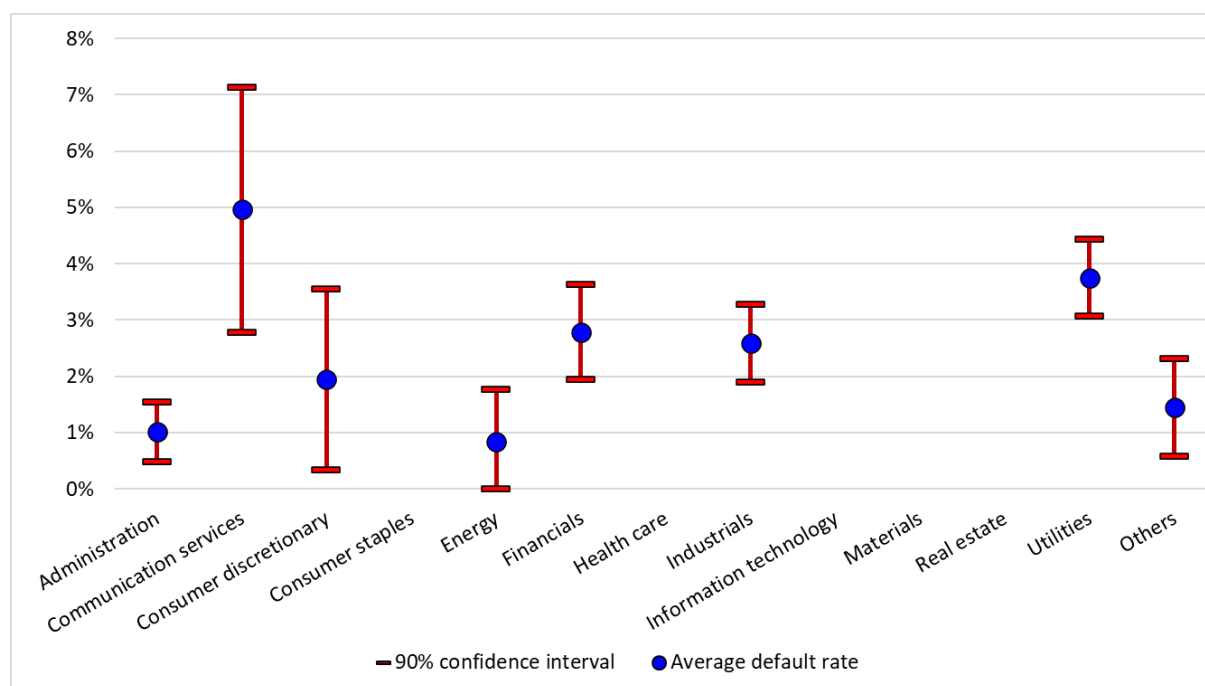


Table 11 shows the evolution of default rates over time for each GICS sector. The administration and financials sectors display a similar trend, with a marked improvement in default rates over the last three decades. In contrast, the utilities and industrials sectors have maintained relatively stable default rates throughout the same period.

Table 11: Annual default rates by GICS sector

	Administration	Communication services	Consumer discretionary	Consumer staples	Energy	Financials	Health care	Industrials	Information technology	Materials	Real estate	Utilities	Other
Years	31	31	31		31	31		31				31	27
Counterparties	145	32	57		28	323		165				233	147
Defaults	13	13	9		2	81		41				87	21
Observations	1 280	262	461		239	2 904		1 582				2 320	1 448
Average default rate	1.02%	4.96%	1.95%		0.84%	2.79%		2.59%				3.75%	1.45%
1994	0.00%	0.00%	0.00%		0.00%	10.42%		0.00%				7.69%	0.00%
1995	16.67%	0.00%	0.00%		0.00%	6.25%		0.00%				0.00%	0.00%
1996	0.00%	0.00%	0.00%		0.00%	2.08%		0.00%				0.00%	0.00%
1997	0.00%	0.00%	0.00%		16.67%	3.92%		7.69%				5.56%	0.00%
1998	12.50%	0.00%	0.00%		0.00%	6.12%		0.00%				0.00%	0.00%
1999	0.00%	0.00%	18.75%		0.00%	10.42%		0.00%				11.11%	0.00%
2000	0.00%	0.00%	9.09%		0.00%	9.43%		10.53%				4.17%	0.00%
2001	0.00%	11.11%	0.00%		0.00%	7.55%		0.00%				2.08%	0.00%
2002	6.25%	0.00%	0.00%		0.00%	11.11%		0.00%				4.08%	0.00%
2003	0.00%	25.00%	0.00%		0.00%	3.57%		0.00%				7.69%	0.00%
2004	0.00%	14.29%	0.00%		0.00%	4.55%		12.00%				7.55%	0.00%
2005	0.00%	16.67%	0.00%		0.00%	4.05%		0.00%				3.39%	0.00%
2006	0.00%	0.00%	0.00%		0.00%	7.25%		6.45%				3.28%	0.00%
2007	3.45%	0.00%	0.00%		0.00%	1.43%		3.13%				4.76%	0.00%
2008	0.00%	0.00%	0.00%		0.00%	0.00%		6.06%				7.69%	0.00%
2009	0.00%	0.00%	0.00%		0.00%	4.55%		2.56%				2.82%	0.00%
2010	0.00%	15.38%	33.33%		0.00%	2.22%		2.22%				6.67%	0.00%
2011	0.00%	0.00%	0.00%		0.00%	2.17%		0.00%				0.00%	0.00%
2012	1.82%	7.69%	0.00%		0.00%	4.30%		1.67%				6.02%	1.61%
2013	0.00%	8.33%	0.00%		0.00%	3.09%		1.49%				4.44%	0.00%
2014	0.00%	0.00%	0.00%		0.00%	0.00%		4.29%				5.49%	3.80%
2015	1.47%	11.11%	0.00%		0.00%	0.00%		0.00%				1.01%	0.00%
2016	0.00%	0.00%	0.00%		0.00%	1.60%		2.67%				1.94%	1.16%
2017	0.00%	0.00%	3.70%		0.00%	2.36%		3.06%				3.60%	1.18%
2018	0.00%	0.00%	0.00%		0.00%	1.42%		2.97%				3.51%	0.00%
2019	1.32%	0.00%	0.00%		8.33%	0.00%		2.08%				5.04%	0.00%
2020	1.32%	22.22%	6.90%		0.00%	3.31%		5.00%				2.50%	0.00%
2021	1.27%	0.00%	0.00%		0.00%	0.62%		1.98%				3.39%	1.06%
2022	1.14%	0.00%	0.00%		0.00%	1.82%		3.92%				2.73%	10.64%
2023	2.22%	0.00%	0.00%		0.00%	1.17%		0.00%				1.74%	3.61%
2024	1.09%	7.69%	0.00%		0.00%	0.00%		1.92%				2.42%	1.23%

3.4.2 Default rates by sector groupings

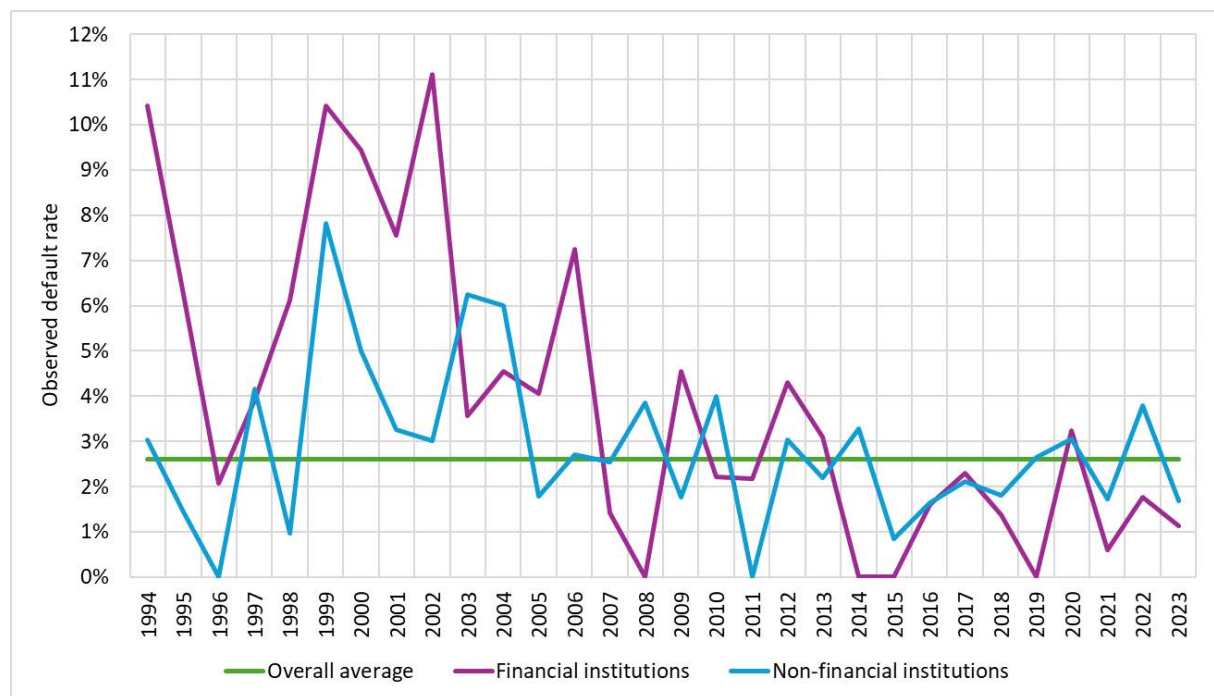
Table 12 presents the annual default rates by sector groupings. [Annex 2](#) provides an overview of the sector grouping codes.

Table 12: Annual default rates for sector groupings

	Financial institutions	Non-financial institutions	Banking	Infrastructure	Non-bank financials	Renewables	Services
Years	31	31	31	31	31	18	31
Counterparties	327	854	214	273	113	44	145
Defaults	81	205	66	77	15	4	40
Observations	2 931	8 046	1 952	2 556	979	246	1 287
Average default rate	2.76%	2.55%	3.38%	3.01%	1.53%	1.63%	3.11%
1994	10.42%	3.03%	12.82%	0.00%	0.00%		0.00%
1995	6.25%	1.45%	5.56%	0.00%	8.33%		3.57%
1996	2.08%	0.00%	2.78%	0.00%	0.00%		0.00%
1997	3.92%	4.17%	2.56%	4.00%	8.33%		2.86%
1998	6.12%	0.97%	5.26%	0.00%	9.09%		2.86%
1999	10.42%	7.83%	13.16%	0.00%	0.00%		6.45%
2000	9.43%	5.00%	7.32%	5.41%	16.67%		10.00%
2001	7.55%	3.25%	4.76%	2.50%	18.18%		6.90%
2002	11.11%	3.01%	11.63%	2.33%	9.09%		3.57%
2003	3.57%	6.25%	4.55%	6.67%	0.00%		6.90%
2004	4.55%	6.00%	5.77%	8.51%	0.00%		3.45%
2005	4.05%	1.80%	5.17%	4.08%	0.00%	0.00%	3.45%
2006	7.25%	2.72%	9.26%	5.17%	0.00%	0.00%	3.45%
2007	1.43%	2.55%	1.85%	1.67%	0.00%		0.00%
2008	0.00%	3.85%	0.00%	4.69%	0.00%		0.00%
2009	4.55%	1.76%	3.08%	2.67%	8.70%	0.00%	5.00%
2010	2.22%	4.00%	1.47%	5.95%	4.55%	0.00%	15.38%
2011	2.17%	0.00%	2.78%	0.00%	0.00%	0.00%	0.00%
2012	4.30%	3.04%	5.80%	3.06%	0.00%	16.67%	2.27%
2013	3.09%	2.19%	4.17%	1.92%	0.00%	0.00%	2.38%
2014	0.00%	3.28%	0.00%	4.76%	0.00%	16.67%	0.00%
2015	0.00%	0.84%	0.00%	1.69%	0.00%	0.00%	1.96%
2016	1.60%	1.64%	1.30%	1.68%	2.08%	0.00%	0.00%
2017	2.31%	2.11%	4.00%	2.84%	0.00%	0.00%	1.75%
2018	1.39%	1.81%	2.38%	2.78%	0.00%	0.00%	1.61%
2019	0.00%	2.65%	0.00%	2.13%	0.00%	0.00%	0.00%
2020	3.25%	3.06%	3.61%	5.41%	2.82%	0.00%	7.69%
2021	0.61%	1.72%	1.10%	2.67%	0.00%	0.00%	0.00%
2022	1.78%	3.80%	2.06%	4.05%	1.39%	0.00%	4.84%
2023	1.14%	1.68%	2.04%	0.64%	0.00%	0.00%	0.00%
2024	0.00%	1.65%	0.00%	3.05%	0.00%	5.88%	4.92%

Annual default rates of financial and non-financial institutions follow similar trends, including a significant decrease in defaults after 2006. While financial institutions generally exhibited higher default rates than non-financial ones from 1994 onwards, this pattern has not persisted since the 2007 financial crisis.

Figure 9: Annual default rates for financial and non-financial institutions



3.5 Default rates by World Bank region and sector

Tables 13 and 14 present average default rates and confidence intervals by sectors and geographical region, offering insights into the lending profile characteristics of various industrial sectors across different regions. In some cases, the ranges and confidence intervals are relatively wide. This is due to regional market differences and dataset characteristics reflecting the implicit guarantees for certain sectors, such as financials and utilities.

Table 13: Default rates by World Bank region and GICS sector

World Bank region	Item	Administration	Communication services	Consumer discretionary	Consumer staples	Energy	Financials	Health care	Industrials	Information technology	Materials	Real estate	Utilities	Other
East Asia & Pacific	Lower of 90% CI*						1.30%							
	Default rate						3.75%							
	Upper of 90% CI						6.19%							
Europe & Central Asia	Lower of 90% CI	0.10%					0.35%		0.19%				0.82%	0.44%
	Default rate	0.30%					1.16%		1.18%				1.53%	1.34%
	Upper of 90% CI	0.50%					1.98%		2.17%				2.23%	2.23%
Latin America & Caribbean	Lower of 90% CI						0.95%						0.00%	
	Default rate						2.46%						1.07%	
	Upper of 90% CI						3.97%						2.42%	
Middle East & North Africa	Lower of 90% CI						0.48%						0.64%	
	Default rate						1.79%						1.84%	
	Upper of 90% CI						3.09%						3.04%	
South Asia	Lower of 90% CI													
	Default rate													
	Upper of 90% CI													
Sub-Saharan Africa	Lower of 90% CI			0.00%			3.82%		2.22%				6.20%	
	Default rate			1.77%			5.40%		3.57%				7.86%	
	Upper of 90% CI			3.62%			6.98%		4.93%				9.53%	

*Confidence interval

Table 14: Default rates by World Bank region and sector groupings

World Bank region	Item	Financial institutions	Non-financial institutions	Banking	Infrastructure	Non-bank financials	Renewables	Services
East Asia & Pacific	Lower of 90% CI*	1.30%	1.82%					
	Default rate	3.75%	4.31%					
	Upper of 90% CI	6.19%	6.80%					
Europe & Central Asia	Lower of 90% CI	0.35%	0.52%	0.27%	0.76%	0.00%		0.73%
	Default rate	1.16%	1.05%	1.16%	1.63%	1.18%		2.43%
	Upper of 90% CI	1.98%	1.59%	2.05%	2.49%	2.38%		4.13%
Latin America & Caribbean	Lower of 90% CI	0.95%	0.45%	1.86%	0.07%	0.04%		0.00%
	Default rate	2.46%	1.38%	3.83%	1.17%	0.47%		0.82%
	Upper of 90% CI	3.97%	2.31%	5.81%	2.27%	0.89%		1.88%
Middle East & North Africa	Lower of 90% CI	0.48%	0.97%	0.58%	0.51%			
	Default rate	1.79%	1.94%	2.50%	1.72%			
	Upper of 90% CI	3.09%	2.91%	4.42%	2.92%			
South Asia	Lower of 90% CI							
	Default rate							
	Upper of 90% CI							
Sub-Saharan Africa	Lower of 90% CI	3.64%	4.08%	4.18%	3.71%	1.56%		3.04%
	Default rate	5.21%	5.21%	6.37%	4.96%	3.51%		4.58%
	Upper of 90% CI	6.78%	6.34%	8.56%	6.20%	5.47%		6.11%

*Confidence interval

3.6 Default rates by country

The average default rates for all available counterparties by country are presented in Tables 15 and 16. The confidence intervals vary significantly across countries, reflecting the disparities in general default frequency and yearly default rate heterogeneity.

Table 15: Default rates by country

ISO country code and ISO country name	Counterparties	Observed years	Number of defaults	Number of observations	Signed amount € million	Lower of 90% confidence interval	Average default rate	Upper of 90% confidence interval
BR-Brazil	26	13	-	126	4 022	0.00%	0.00%	0.00%
EG-Egypt	26	31	8	289	9 424	1.08%	2.77%	4.46%
KZ-Kazakhstan	38	25	7	281	2 824	0.67%	2.49%	4.31%
MA-Morocco	56	31	8	677	9 538	0.56%	1.18%	1.81%
RS-Serbia	25	23	2	231	1 229	0.00%	0.87%	1.76%
RU-Russia	48	30	6	404	3 086	0.32%	1.49%	2.65%
SN-Senegal	23	31	30	241	2 893	8.83%	12.45%	16.06%
TN-Tunisia	20	31	6	281	4 011	0.79%	2.14%	3.48%
TR-Turkey	73	29	5	783	19 805	0.18%	0.64%	1.10%
UA-Ukraine	47	19	15	369	2 394	0.43%	4.07%	7.70%
ZA-South Africa	114	29	5	942	44 592	0.00%	0.53%	1.12%
Overall, including omitted categories	1 181	31	286	10 977	178 703	2.15%	2.61%	3.06%

Table 16: Annual default rates by country

ISO country code	Average default rate	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
BR	0.00%																			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
EG	2.77%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.1%	25.0%	0.0%	0.0%	10.0%	0.0%	11.1%	0.0%	0.0%	0.0%	0.0%	0.0%	16.7%	0.0%	0.0%	0.0%	0.0%	7.1%	7.7%	0.0%	0.0%	0.0%	0.0%	0.0%
KZ	2.49%							0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	16.0%	0.0%
MA	1.18%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%	0.0%	0.0%	0.0%	0.0%	5.3%	0.0%	0.0%	0.0%	3.8%	3.2%	0.0%	0.0%	3.4%	0.0%	0.0%	3.4%	6.7%	0.0%	0.0%	0.0%	0.0%
RS	0.87%									0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.7%	0.0%
RU	1.49%		0.0%	0.0%	0.0%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	0.0%	0.0%	3.7%	4.8%	5.9%	0.0%	0.0%	0.0%	0.0%	25.0%	0.0%	0.0%
SN	12.45%	50.0%	0.0%	0.0%	0.0%	16.7%	40.0%	0.0%	14.3%	16.7%	0.0%	16.7%	0.0%	28.6%	0.0%	25.0%	12.5%	33.3%	0.0%	0.0%	9.1%	27.3%	0.0%	0.0%	18.2%	18.2%	11.1%	18.2%	11.1%	0.0%	0.0%	18.2%
TN	2.14%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	25.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.3%	12.5%	0.0%	6.3%	6.7%	0.0%	0.0%	0.0%
TR	0.64%			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%	0.0%	0.0%	0.0%	0.0%	4.8%	0.0%	4.2%	0.0%	0.0%	0.0%
UA	4.07%													0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	30.0%	0.0%	0.0%	3.3%
ZA	0.53%			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.7%	0.0%	0.0%	16.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%

3.7 Default rates by income group

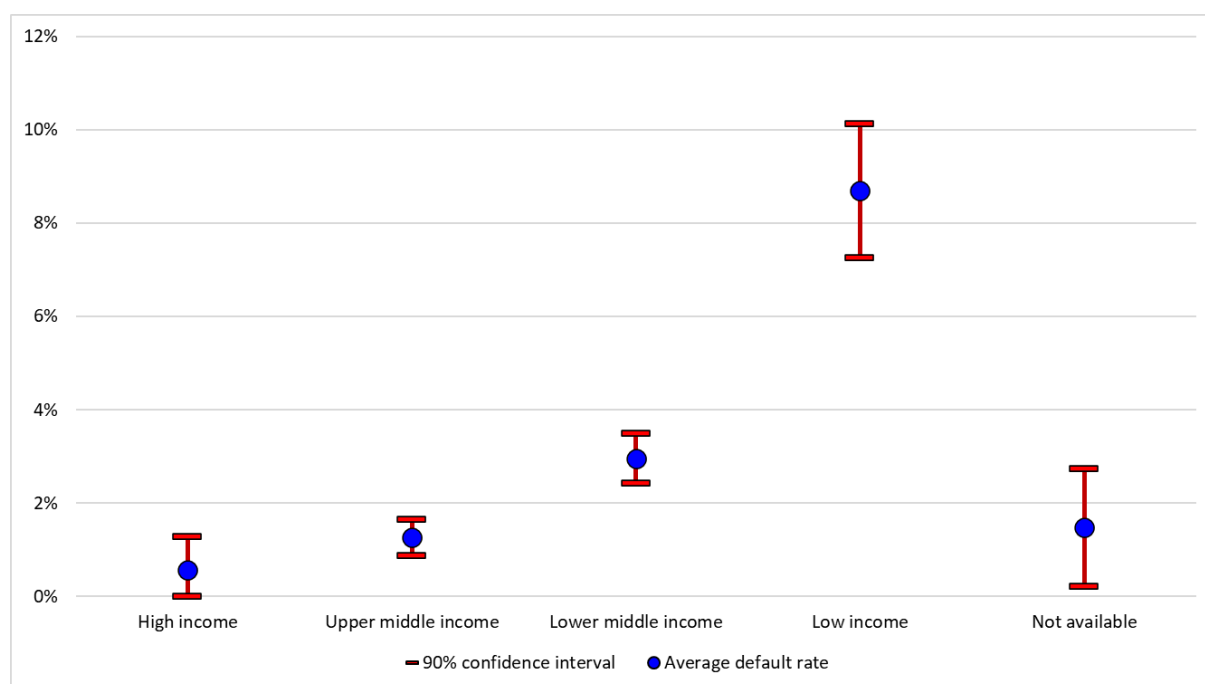
The default rates in this section are presented according to the [World Bank Group income group classification](#). The highest default rates are observed in low-income countries.

Table 17: Default rates by income group

Income group at year of default	Counter-parties	Observed years	Number of defaults	Number of observations	Signed amount € million	Lower of 90% confidence interval	Average default rate	Upper of 90% confidence interval
High income	240	31	6	1 072	11 093	0.00%	0.56%	1.28%
Upper middle income	533	31	63	4 981	93 773	0.88%	1.26%	1.65%
Lower middle income	307	31	99	3 342	63 670	2.43%	2.96%	3.50%
Low income	66	31	114	1 311	3 927	7.26%	8.70%	10.13%
Not available	35	31	4	271	6 239	0.22%	1.48%	2.73%
Overall, including omitted categories	1 181	31	286	10 977	178 703	2.15%	2.61%	3.06%

Note: Income group classification is based on the country's status at the time of default.

Figure 10: Default rates by income group



3.8 Default rates by income group and region

Table 18 breaks down default rates by income group and World Bank region. Low-income countries in East Asia and the Pacific and sub-Saharan Africa exhibit the highest default rates. For some regions, the difference in default rates between the upper- and the lower-middle-income groups is not highly significant. No counterparties in lower-middle-income countries in South Asia defaulted during the analysed period.

Table 18: Default rates by income group and World Bank region

Income group at year of default	Number of defaults	Number of observations	East Asia & Pacific	Europe & Central Asia	Latin America & Caribbean	Middle East & North Africa	South Asia	Sub-Saharan Africa
High income	6	1 072	2.70%	0.12%	1.43%			
Upper middle income	63	4 981	4.49%	1.00%	2.01%	1.63%		1.19%
Lower middle income	99	3 342	3.37%	2.53%	2.06%	1.96%	0.00%	6.08%
Low income	114	1 311	10.71%	1.96%				9.11%
Not available	4	271		0.00%	1.28%			1.30%

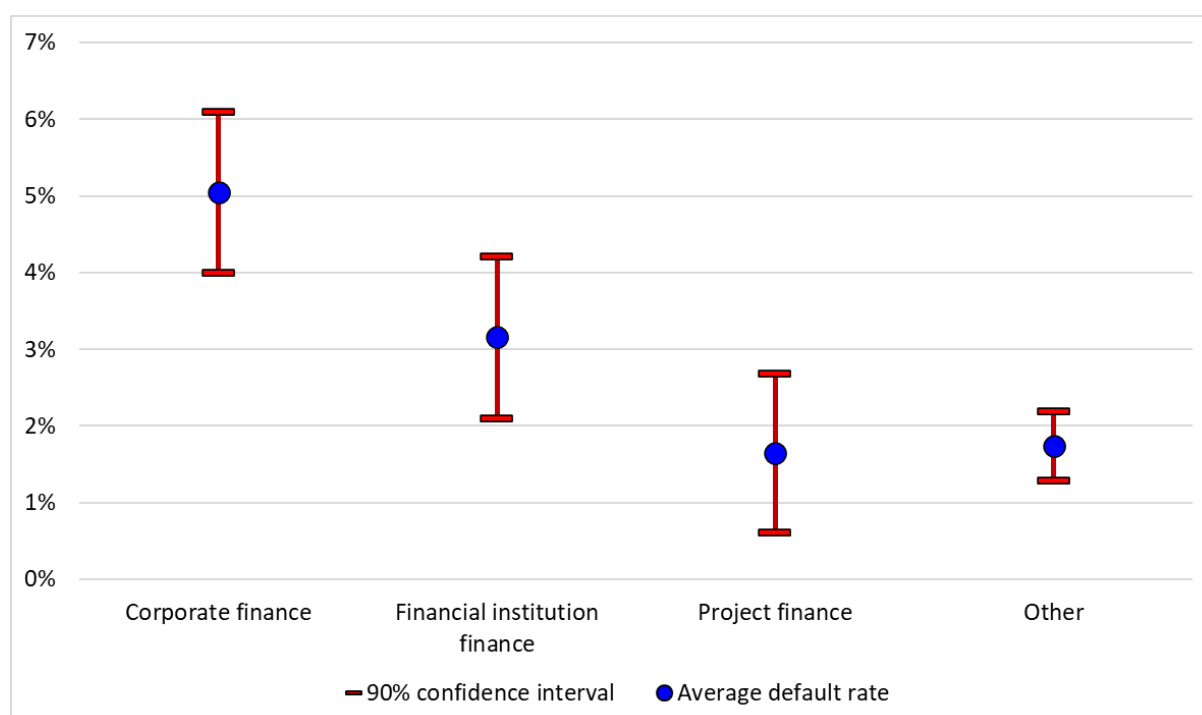
3.9 Default rates by project type

With an average default rate of 5.05%, corporate finance lending shows the highest rate among the different project types, followed by financial institutions finance (3.16%) and project finance (1.65%). The variation in default rates by project type is relatively consistent.

Table 19: Default rates by project type

Project type of contracts at time of default	Number of defaults	Number of observations	Lower of 90% confidence interval	Average default rate	Upper of 90% confidence interval
Corporate finance	97	1 921	4.00%	5.05%	6.10%
Financial institution finance	72	2 281	2.10%	3.16%	4.21%
Project finance	16	971	0.61%	1.65%	2.68%
Other	99	5 698	1.28%	1.74%	2.19%
Overall, including omitted categories	286	10 977	2.15%	2.61%	3.06%

Figure 11: Default rates by project type



4 Recovery rate statistics

4.1 Recovery rate methodology

4.1.1 Definition

The recovery rate is the ratio between the discounted cash flows received (or expected to be received) after a set discount date (for example, default date) and the outstanding amount at that time. These cash flows can include principal, interest, penalties and fees and can originate from the debtor or potential guarantors or from the sale of collateral.

4.1.2 Calculations

The GEMs database captures exposure at three levels: counterparty, contract and tranche. This structure shows the fact that a single counterparty may have several contracts, each comprising several tranches with varying currencies and/or interest rates. For private and public counterparties, recovery rates are calculated per contract by aggregating all discounted cash flows from each tranche. These calculations account for the timing of payments and the applicable lending rate over the life of the contract. As a result, one recovery rate is calculated per contract, covering the period from the earliest default to the final maturity date, and includes all subsequent default events and associated cash flows.

The recovery rate statistics in this publication include unresolved contracts in default for at least eight years. This threshold ensures consistency in the data. In such cases, unrecovered amounts at the reporting date are considered lost, and no estimates of future cash flows are included.

Recovery rates are calculated as follows:

Equation 5: Recovery rates (RR) calculation

$$RR = \frac{A + B}{C + D}$$

Where:

A = Amounts paid after the discount date and up to the resolution of default, discounted to the chosen discount date

B = Amount outstanding after the chosen reporting horizon for cash flows discounted to the chosen discount date

C = Initial amount outstanding as of the discount date

D = Post-default disbursed amounts, discounted to the chosen discount date.

4.1.3 Output parameters

To ensure the significance of the recovery rate statistics, each table or figure must include data from at least ten defaulted contracts within each relevant category (for example, a specific sector or region). If this threshold is not met, no values are disclosed. The average recovery rates presented are simple averages of the observations available within each category.

Percentile values are provided alongside mean and median values to illustrate the distribution of recovery rates. This method was chosen over the confidence interval approach – used in the default rate statistics – due to the non-normal distribution of recovery data.

4.2 Overall results

The results show that over 70% of the defaulted contracts recover at least 90% of the outstanding amounts, including post-default disbursements. On average, contracts are resolved within six years following a default. Recovery rates for 2023 and 2024 are not disclosed, as no contracts defaulted during those years have been resolved to date.

Table 20: Recovery rates by year of default

Year	Defaults	Recovery rate
1994	16	77.0%
1995	20	94.3%
1996	1	98.6%
1997	16	82.9%
1998	4	88.4%
1999	23	76.1%
2000	18	74.5%
2001	19	96.5%
2002	11	92.0%
2003	19	79.2%
2004	18	84.7%
2005	8	72.0%
2006	8	99.1%
2007	5	72.7%
2008	7	80.1%
2009	6	73.1%

Year	Defaults	Recovery rate
2010	11	92.5%
2011	10	84.1%
2012	12	92.6%
2013	7	97.1%
2014	9	77.4%
2015	2	68.1%
2016	10	92.9%
2017	8	96.6%
2018	3	88.7%
2019	5	96.0%
2020	17	92.6%
2021	5	97.6%
2022	10	82.8%
2023		
2024		
Total	308	85.8%

Over 70% of the defaulted contracts exhibit a recovery rate of 90-100%. However, slightly fewer than 5% show very low recovery levels (0-10%).

Table 21: Distribution of recovery rates

Recovery rate	From	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	Total
	To	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	
Defaulted contracts		13	5	4	2	4	12	16	12	22	218	308
% of total		4.2%	1.6%	1.3%	0.6%	1.3%	3.9%	5.2%	3.9%	7.1%	70.8%	100%

Table 22 shows that half of the defaults are resolved within the first six years. In contrast, about 14% of defaults take more than 19 years to resolve.

Table 22: Time to resolution

	Resolution of default during year																				Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	>=20	
Resolutions	39	46	25	19	22	8	21	11	12	7	9	18	1	9	4	3	5	1	5	43	308
% resolved	13%	28%	36%	42%	49%	52%	58%	62%	66%	68%	71%	77%	77%	80%	81%	82%	84%	84%	86%	100%	

4.3 Recovery rates by region

4.3.1 Recovery rates by World Bank region

Using the [World Bank Group regional classification](#), this section presents recovery rates by geographical region, offering insights into the regional distribution of the data.

The lowest average recovery rate is observed in East Asia and the Pacific, while the highest is recorded in Latin America and the Caribbean. The recovery rates across East Asia and the Pacific exhibit the greatest variability, whereas the most stable rates are observed in the Middle East and North Africa. Sub-Saharan Africa accounts for nearly 58% of the observations, with an overall average recovery rate of 86.8%.

Table 23: Recovery rates by World Bank region

World Bank region	Number of defaults	Signed amount € million	Average recovery rate	Minimum observation	10th percentile	25th percentile	Median	75th percentile	90th percentile	Maximum observation
East Asia & Pacific	22	226	73.5%	0.0%	30.2%	61.6%	80.9%	99.7%	100.0%	100.0%
Europe & Central Asia	42	818	80.3%	0.0%	47.8%	69.6%	92.7%	98.6%	100.0%	100.0%
Latin America & Caribbean	22	152	84.2%	0.0%	33.5%	86.7%	99.3%	99.9%	100.0%	100.0%
Middle East & North Africa	44	1 670	93.5%	56.8%	77.2%	92.8%	99.2%	100.0%	100.0%	100.0%
South Asia										
Sub-Saharan Africa	178	2 749	86.8%	0.0%	51.6%	90.0%	99.0%	100.0%	100.0%	100.0%
Overall, including omitted categories	308	5 615	85.8%	0.0%	52.1%	85.3%	98.5%	100.0%	100.0%	100.0%

Figure 12: Recovery rates by World Bank region

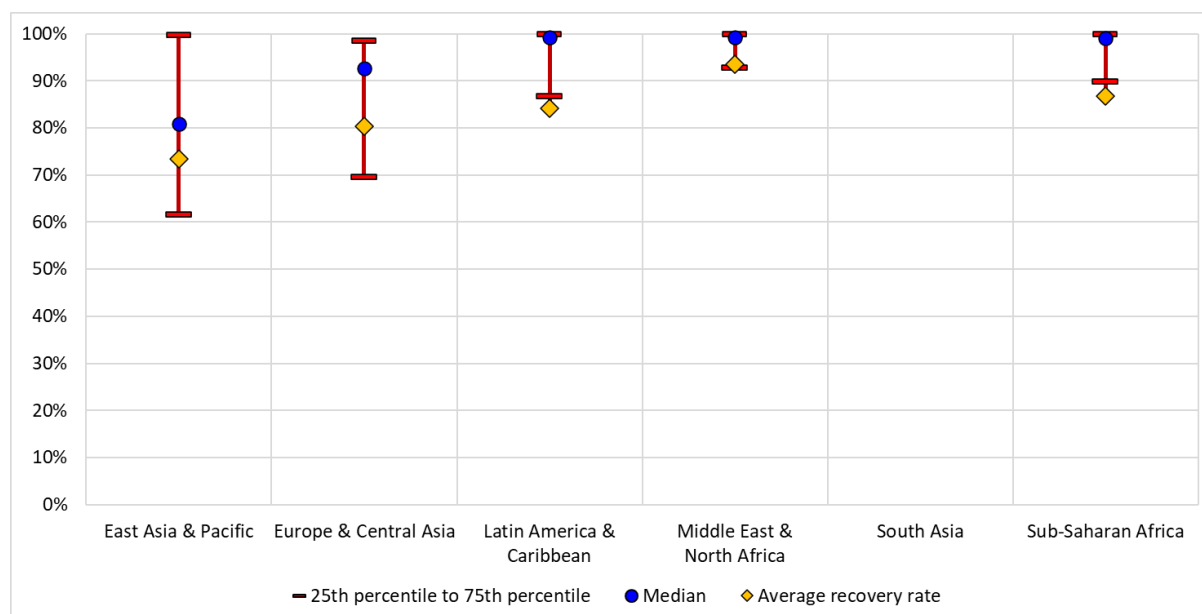


Table 24: Recovery rates by year of default and World Bank region

	East Asia & Pacific	Europe & Central Asia	Latin America & Caribbean	Middle East & North Africa	South Asia	Sub-Saharan Africa
Defaults	22	42	22	44		178
Average recovery rate	73.5%	80.3%	84.2%	93.5%		86.8%
1994						77.0%
1995				97.1%		78.3%
1996			98.6%			
1997		61.4%		91.8%		84.3%
1998	61.3%	92.5%				99.8%
1999	87.6%	98.0%	88.8%			70.1%
2000			62.1%	67.8%		85.7%
2001		99.9%	99.6%	99.9%		94.1%
2002	99.7%		83.0%	97.0%		89.8%
2003		45.2%				83.2%
2004	50.4%	70.9%	87.9%			98.6%
2005	78.1%			60.5%		72.8%
2006	98.4%					99.6%
2007	27.8%			56.8%		92.9%
2008		76.8%		96.8%		77.5%
2009	3.4%					87.1%
2010		95.4%				91.8%
2011	82.7%	53.1%				93.7%
2012		86.7%	100.0%	100.0%		97.7%
2013	89.2%	99.7%		99.6%		97.1%
2014	55.3%	63.2%				90.2%
2015	79.5%	56.7%				
2016		84.2%		100.0%		92.1%
2017		85.4%				98.2%
2018				66.6%		99.8%
2019						96.0%
2020		94.6%	98.8%	98.2%		75.0%
2021				97.2%		97.7%
2022		82.8%				
2023						
2024						

4.3.2 Recovery rates by continent

Table 25 presents recovery rates categorised by year of default and continent. The assignment of individual countries to continents is detailed in [Annex 1](#).

Table 25: Recovery rates by year of default and continent

	Africa	Asia	Europe	North America	Oceania	South America
Defaults	206	13	26	14	17	
Average recovery rate	87.7%	84.2%	82.6%	87.8%	80.3%	
1994	77.0%					
1995	94.3%					
1996						
1997	84.3%	91.8%				
1998	99.8%		92.5%		61.3%	
1999	70.1%	98.0%		88.8%	87.6%	
2000	80.9%			68.8%		
2001	94.1%			99.6%		
2002	92.2%			83.0%	99.7%	
2003	83.2%					
2004	98.6%			87.9%	50.4%	
2005	71.1%				78.1%	
2006	99.6%				98.4%	
2007	83.9%				27.8%	
2008	81.4%					
2009	87.1%	3.4%				
2010	89.5%		95.4%			
2011	93.7%				99.8%	
2012	98.2%		86.7%	100.0%		
2013	97.1%		100.0%		89.2%	
2014	90.2%	55.3%	63.2%			
2015		79.5%	56.7%			
2016	97.8%		84.2%			
2017	99.5%		85.4%			
2018	88.7%					
2019	96.0%					
2020	86.9%	97.2%				
2021	97.6%					
2022			82.8%			
2023						
2024						

4.4 Recovery rates by sector

Like the annual default rates analysis in Section 3, the recovery rates by sector are classified according to the GICS 2018 framework.

4.4.1 Recovery rates by GICS sector

Among the recovered defaults, over 65% fall within the utilities sector and the “others” category. The “others” category includes forms of public lending that do not align with any standard GICS industrial classifications. The greatest variability of recovery rates is observed in the communication services and in the consumer distribution sectors, while the lowest variability is observed in the industrials and utilities sectors.

Table 26: Recovery rates by GICS sector

GICS sector	Number of defaults	Signed amount € million	Average recovery rate	Minimum observation	10th percentile	25th percentile	Median	75th percentile	90th percentile	Maximum observation
Administration										
Communication services	11	171	79.9%	34.5%	37.4%	64.5%	90.5%	99.9%	100.0%	100.0%
Consumer discretionary	11	96	80.6%	6.3%	56.8%	65.8%	98.0%	99.4%	100.0%	100.0%
Consumer staples										
Energy										
Financials										
Health care										
Industrials	49	1 721	93.3%	14.3%	81.3%	96.0%	99.3%	100.0%	100.0%	100.0%
Information technology										
Materials	11	151	81.2%	0.0%	19.7%	87.6%	99.7%	100.0%	100.0%	100.0%
Real estate										
Utilities	92	1 354	87.8%	5.1%	52.3%	91.2%	99.2%	100.0%	100.0%	100.0%
Others	111	1 327	82.4%	0.0%	51.5%	74.2%	95.5%	99.8%	100.0%	100.0%
Overall, including omitted categories	308	5 615	85.8%	0.0%	52.1%	85.3%	98.5%	100.0%	100.0%	100.0%

Figure 13: Recovery rates by GICS sector

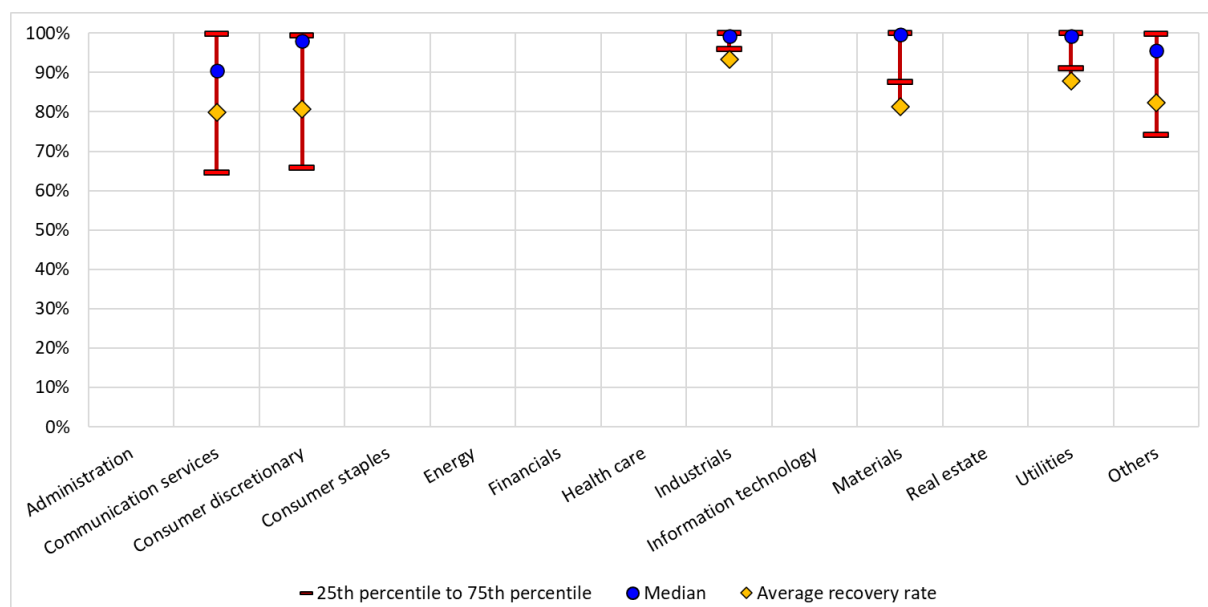


Table 27: Recovery rates by year of default and GICS sector

	Administration	Communication services	Consumer discretionary	Consumer staples	Energy	Financials	Health care	Industrials	Information technology	Materials	Real estate	Utilities	Other
Defaults		11	11					49		11		92	111
Average recovery rate		80.0%	80.8%					93.3%		81.3%		87.8%	82.3%
1994										19.7%		93.9%	78.8%
1995								95.9%				95.8%	78.3%
1996													98.6%
1997								91.3%				92.1%	79.7%
1998										100.0%			61.3%
1999			98.0%					92.7%				53.9%	92.0%
2000			68.8%					93.7%		49.4%		97.2%	66.3%
2001		99.8%						100.0%		92.1%		98.6%	94.3%
2002		88.0%						91.2%		99.8%		87.8%	94.2%
2003		80.4%	98.7%							99.9%		56.8%	85.4%
2004			68.7%					99.8%				98.0%	70.9%
2005		37.4%										99.2%	69.3%
2006								99.3%				99.7%	98.4%
2007			56.8%									92.9%	27.8%
2008								56.9%				97.8%	76.3%
2009								100.0%				100.0%	75.1%
2010		98.2%						93.8%				88.0%	100.0%
2011								96.8%				100.0%	80.4%
2012		34.2%						96.6%				98.8%	96.7%
2013		90.5%						100.0%				91.8%	99.6%
2014								72.3%				97.1%	63.4%
2015												57.0%	
2016			63.1%					99.7%		100.0%		96.5%	92.2%
2017								99.9%				99.2%	84.3%
2018								88.7%					
2019								100.0%				93.7%	
2020		95.2%	98.9%					99.6%				100.0%	0.0%
2021								97.7%					97.3%
2022								95.2%				6.4%	95.7%
2023													
2024													

4.4.2 Recovery rates by sector groupings

Table 28 shows recovery rates by sector groupings. The assignment of individual GICS and NACE² sectors to their respective sector groupings is detailed in Annex 2.

Table 28: Recovery rates by year of default for sector groupings

	Financial institutions	Non-financial institutions	Infrastructure	Services
Defaults		299	83	18
Average recovery rate		85.9%	90.1%	82.8%
1994		77.0%		
1995		94.3%	96.3%	
1996		98.6%		
1997		82.9%	100.0%	
1998		80.7%		
1999		76.1%	92.7%	100.0%
2000		74.5%	91.6%	100.0%
2001		96.5%	99.9%	99.8%
2002		92.0%	94.7%	88.0%
2003		79.2%	62.6%	80.4%
2004		84.7%	99.8%	
2005		72.0%	68.7%	37.4%
2006		99.1%	99.5%	
2007		72.7%		
2008		80.1%	77.4%	
2009		87.1%	100.0%	
2010		91.8%	92.7%	96.3%
2011		84.1%	96.7%	
2012		92.6%	77.0%	34.5%
2013		96.6%	93.7%	89.2%
2014		77.4%	81.3%	
2015		68.1%	56.7%	
2016		92.9%	99.7%	
2017		97.1%	99.9%	
2018		88.7%	88.7%	66.6%
2019		96.0%	100.0%	
2020		92.3%	97.9%	95.0%
2021		97.6%	97.6%	
2022		85.3%	50.8%	60.6%
2023				
2024				

² Nomenclature of Economic Activities (NACE) is the European statistical classification of economic activities.

4.5 Recovery rates by income group

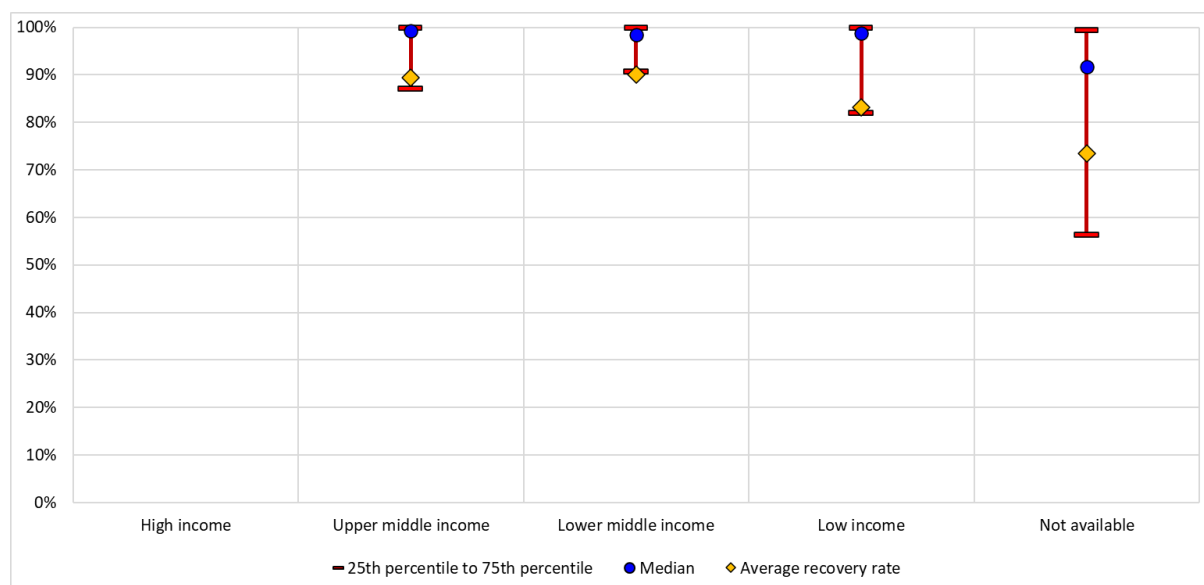
Median recovery rates across income groups are relatively consistent, ranging between 98.5% and 99.3%. However, average recovery rates show slightly greater variation: Contracts associated with low-income counterparties have an average recovery rate of 83.2%, while those linked to upper-middle-income counterparties show an average recovery rate of 89.4%. The low-middle-income group presents mixed results, with an average recovery rate higher than that of the upper-middle-income group, but a median recovery rate lower than that of the lower-middle-income group.

As illustrated by Figure 14, this pattern is driven by the greater variance in recovery rates among low-income counterparties, suggesting a higher number of contracts with lower recovery levels.

Table 29: Recovery rates by income group

Historical income group	Number of defaults	Signed amount € million	Average recovery rate	Minimum observation	10th percentile	25th percentile	Median	75th percentile	90th percentile	Maximum observation
High income										
Upper middle income	46	1 088	89.4%	6.3%	68.2%	87.1%	99.3%	100.0%	100.0%	100.0%
Lower middle income	106	2 790	90.1%	0.0%	65.3%	90.6%	98.5%	100.0%	100.0%	100.0%
Low income	120	1 235	83.2%	0.0%	27.7%	82.0%	98.7%	100.0%	100.0%	100.0%
Not available	30	458	73.5%	0.0%	22.5%	56.4%	91.7%	99.4%	100.0%	100.0%
Overall, including omitted categories	308	5 615	85.8%	0.0%	52.1%	85.3%	98.5%	100.0%	100.0%	100.0%

Figure 14: Recovery rates by income group



4.6 Recovery rates by income group and region

The highest average recovery rate can be observed in the upper-middle-income group in the Middle East and North Africa, while the lowest recovery rate is observed in the low-income group in East Asia and the Pacific.

Table 30: Recovery rates by income group and region

Income group at year of default	Number of defaults	Average recovery rate	East Asia & Pacific	Europe & Central Asia	Latin America & Caribbean	Middle East & North Africa	South Asia	Sub-Saharan Africa
High income	0	0.0%						
Upper middle income	46	89.4%		83.91%	86.16%			96.10%
Lower middle income	106	90.1%	79.74%			93.07%		91.69%
Low income	120	83.2%						83.42%
Not available	30	73.5%		73.68%				

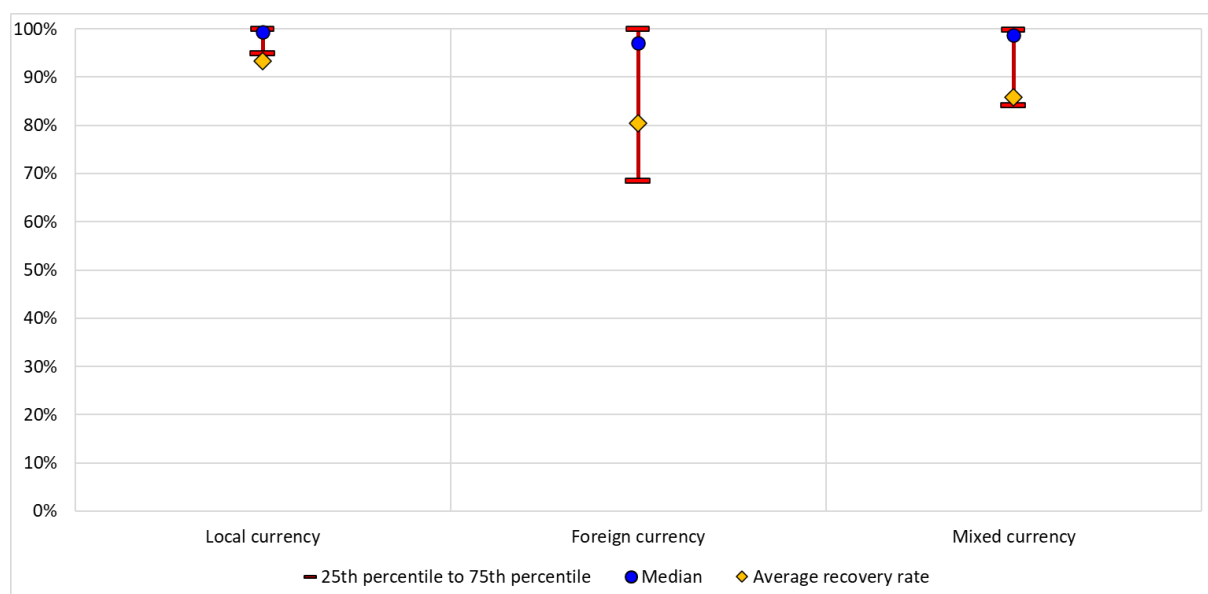
4.7 Recovery rates by currency type

While median recovery rates are similar across currency types, loans issued in foreign currency recover, on average, close to 13% less than those issued in local currency. This pattern, similar to the one observed for the low-income group, suggests that the distribution of recovery rates for foreign currency contracts is left skewed, indicating a higher proportion of defaulted contracts that recover little to no cash flows.

Table 31: Recovery rates by currency type

Currency type	Number of defaults	Signed amount € million	Average recovery rate	Minimum observation	10th percentile	25th percentile	Median	75th percentile	90th percentile	Maximum observation
Local currency	93	1 693	93.4%	14.3%	84.5%	95.0%	99.5%	100.0%	100.0%	100.0%
Foreign currency	136	1 580	80.5%	0.0%	32.1%	68.5%	97.1%	100.0%	100.0%	100.0%
Mixed currency	79	2 342	85.9%	5.1%	50.8%	84.3%	98.8%	99.9%	100.0%	100.0%
Overall, including omitted categories	308	5 615	85.8%	0.0%	52.1%	85.3%	98.5%	100.0%	100.0%	100.0%

Figure 15: Recovery rates by currency type



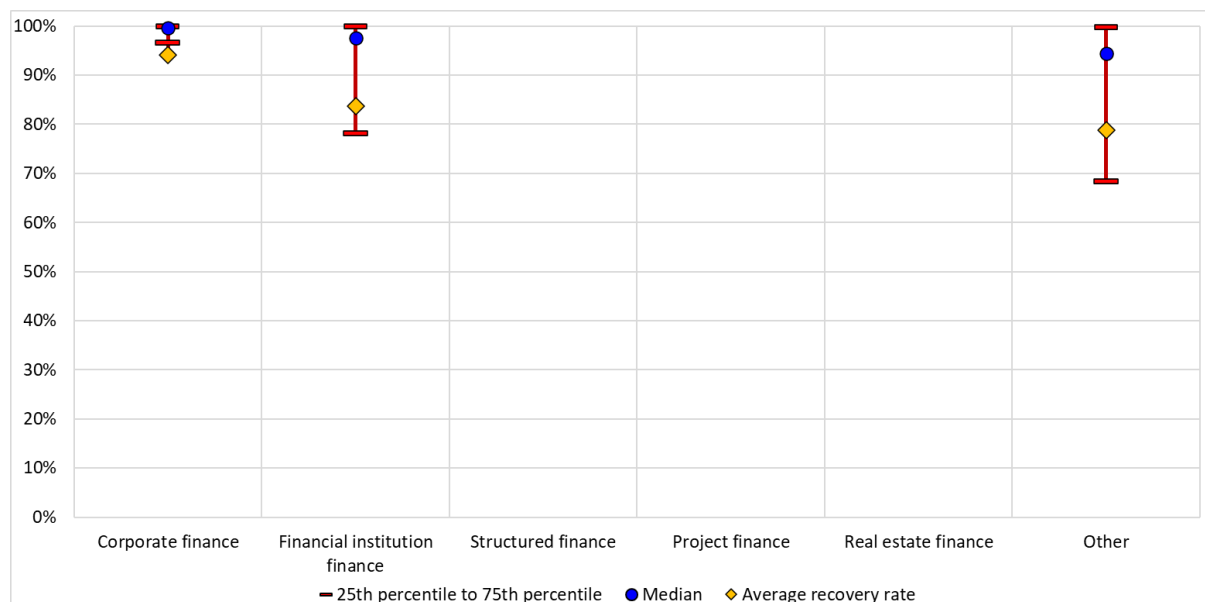
4.8 Recovery rates by project type

With an average of 94.2%, corporate finance projects exhibit the highest recovery rates among the project types, followed by financial institution finance projects (83.6%) and projects in the “other” category (78.8%).

Table 32: Recovery rates by project type

Project type	Number of defaults	Signed amount € million	Average recovery rate	Minimum observation	10th percentile	25th percentile	Median	75th percentile	90th percentile	Maximum observation
Corporate finance	95	1 808	94.2%	14.3%	88.1%	96.6%	99.6%	100.0%	100.0%	100.0%
Financial institution finance	124	1 916	83.6%	0.0%	52.0%	78.2%	97.6%	99.9%	100.0%	100.0%
Structured finance										
Project finance										
Real estate finance										
Other	80	1 511	78.8%	0.0%	11.6%	68.3%	94.4%	99.8%	100.0%	100.0%
Overall, including omitted categories	308	5 615	85.8%	0.0%	52.1%	85.3%	98.5%	100.0%	100.0%	100.0%

Figure 16: Recovery rates by project type



4.9 Recovery rates by seniority

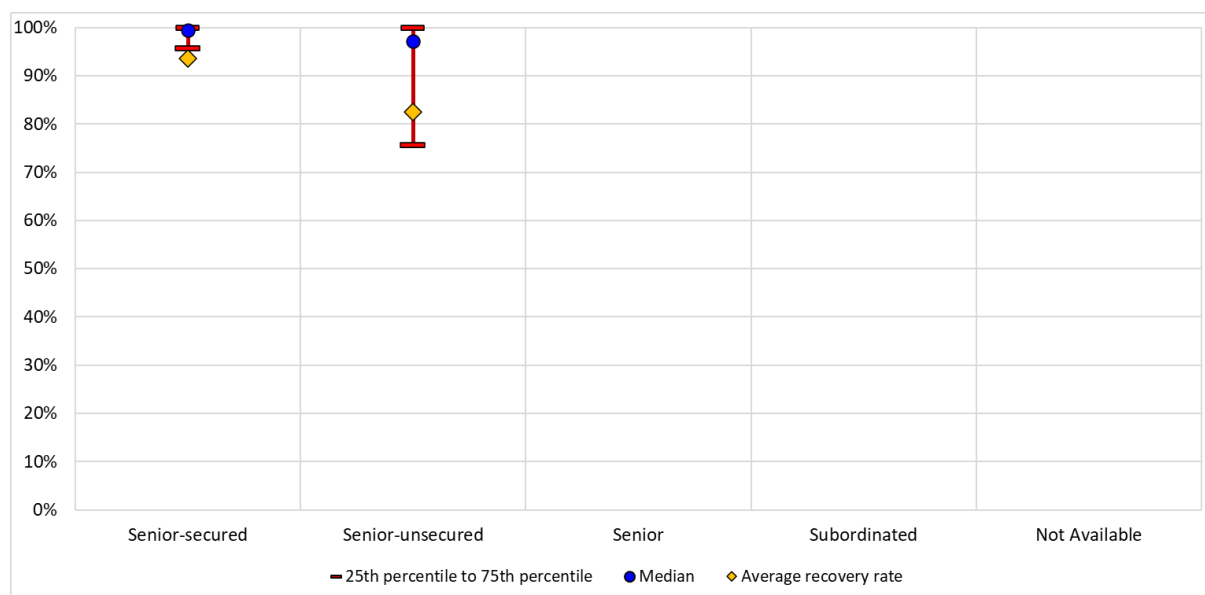
Senior-unsecured contracts recover, on average, 82.5% of the exposure, compared with 93.8% for senior-secured contracts. This difference is primarily driven by a higher proportion of senior-unsecured contracts exhibiting very low recovery levels.

Table 33: Recovery rates by seniority

Seniority	Number of defaults	Signed amount € million	Average recovery rate	Minimum observation	10th percentile	25th percentile	Median	75th percentile	90th percentile	Maximum observation
Senior-secured	91	1 432	93.6%	14.3%	87.6%	95.8%	99.5%	100.0%	100.0%	100.0%
Senior-unsecured	211	4 112	82.5%	0.0%	47.2%	75.6%	97.2%	99.9%	100.0%	100.0%
Senior*										
Subordinated										
Not available										
Overall, including omitted categories	308	5 615	85.8%	0.0%	52.1%	85.3%	98.5%	100.0%	100.0%	100.0%

*Contracts are classified as *Senior* when the information regarding collateralization or any other type of credit protection is not available.

Figure 17: Recovery rates by seniority



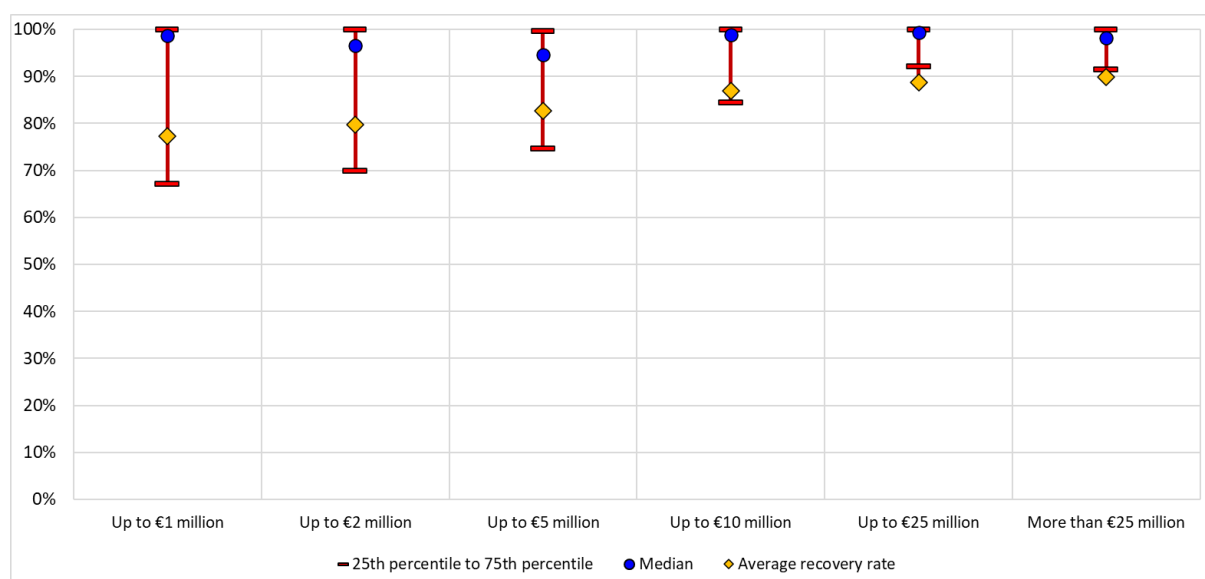
4.10 Recovery rates by contract size

An analysis of recovery rates by contract size reveals a positive correlation between average recoveries and contract size. Additionally, the variance in recovery rates tends to decrease as contract size increases, indicating a narrower dispersion of the data and greater consistency in recovery outcomes for larger contracts.

Table 34: Recovery rates by contract size

Signed amount of contract	Number of defaults	Signed amount € million	Average recovery rate	Minimum observation	10th percentile	25th percentile	Median	75th percentile	90th percentile	Maximum observation
Up to €1 million	24	17	77.2%	0.0%	13.4%	67.2%	98.7%	100.0%	100.0%	100.0%
Up to €2 million	30	49	79.8%	0.0%	25.3%	70.0%	96.5%	100.0%	100.0%	100.0%
Up to €5 million	57	198	82.7%	0.0%	54.6%	74.6%	94.6%	99.7%	100.0%	100.0%
Up to €10 million	54	426	87.0%	10.4%	53.6%	84.5%	98.9%	100.0%	100.0%	100.0%
Up to €25 million	85	1 408	88.7%	5.1%	55.9%	92.2%	99.3%	100.0%	100.0%	100.0%
More than €25 million	58	3 516	89.9%	0.0%	68.0%	91.5%	98.3%	100.0%	100.0%	100.0%
Overall, including omitted categories	308	5 615	85.8%	0.0%	52.1%	85.3%	98.5%	100.0%	100.0%	100.0%

Figure 18: Recovery rates by contract size



Annexes

Annex 1 – Mapping of countries to regions and continents

ISO country code and ISO country name	Region	Continent
AE-United Arab Emirates	Middle East & North Africa	Asia
AF-Afghanistan	South Asia	Asia
AG-Antigua and Barbuda	Latin America & Caribbean	North America
AI-Anguilla	Latin America & Caribbean	North America
AL-Albania	Europe & Central Asia	Europe
AM-Armenia	Europe & Central Asia	Europe
AN-Netherlands Antilles	Latin America & Caribbean	North America
AO-Angola	Sub-Saharan Africa	Africa
AR-Argentina	Latin America & Caribbean	South America
AT-Austria	Europe & Central Asia	Europe
AW-Aruba	Latin America & Caribbean	North America
AZ-Azerbaijan	Europe & Central Asia	Europe
BA-Bosnia and Herzegovina	Europe & Central Asia	Europe
BB-Barbados	Latin America & Caribbean	North America
BD-Bangladesh	South Asia	Asia
BE-Belgium	Europe & Central Asia	Europe
BF-Burkina Faso	Sub-Saharan Africa	Africa
BG-Bulgaria	Europe & Central Asia	Europe
BH-Bahrain	Middle East & North Africa	Asia
BI-Burundi	Sub-Saharan Africa	Africa
BJ-Benin	Sub-Saharan Africa	Africa
BL-Saint Barthélemy	Latin America & Caribbean	North America
BM-Bermuda	North America	North America
BO-Bolivia	Latin America & Caribbean	South America
BR-Brazil	Latin America & Caribbean	South America
BS-Bahamas	Latin America & Caribbean	North America
BT-Bhutan	South Asia	Asia
BW-Botswana	Sub-Saharan Africa	Africa
BY-Belarus	Europe & Central Asia	Europe
BZ-Belize	Latin America & Caribbean	North America
CA-Canada	North America	North America
CD-Congo, The Democratic Republic of	Sub-Saharan Africa	Africa
CF-Central African Republic	Sub-Saharan Africa	Africa
CG-Congo	Sub-Saharan Africa	Africa
CH-Switzerland	Europe & Central Asia	Europe
CI-Côte d'Ivoire	Sub-Saharan Africa	Africa
CL-Chile	Latin America & Caribbean	South America
CM-Cameroon	Sub-Saharan Africa	Africa

ISO country code and ISO country name	Region	Continent
CN-China	East Asia & Pacific	Asia
CO-Colombia	Latin America & Caribbean	South America
CR-Costa Rica	Latin America & Caribbean	North America
CV-Cape Verde	Sub-Saharan Africa	Africa
CW-Curaçao	Latin America & Caribbean	North America
CY-Cyprus	Europe & Central Asia	Europe
CZ-Czechia	Europe & Central Asia	Europe
DE-Germany	Europe & Central Asia	Europe
DJ-Djibouti	Middle East & North Africa	Asia
DK-Denmark	Europe & Central Asia	Europe
DM-Dominica	Latin America & Caribbean	North America
DO-Dominican Republic	Latin America & Caribbean	North America
DZ-Algeria	Middle East & North Africa	Africa
EC-Ecuador	Latin America & Caribbean	South America
EE-Estonia	Europe & Central Asia	Europe
EG-Egypt	Middle East & North Africa	Africa
ES-Spain	Europe & Central Asia	Europe
ET-Ethiopia	Sub-Saharan Africa	Africa
FI-Finland	Europe & Central Asia	Europe
FJ-Fiji	East Asia & Pacific	Oceania
FK-Falkland Islands (Malvinas)	Latin America & Caribbean	South America
FM-Micronesia, Federated States of	East Asia & Pacific	Oceania
FR-France	Europe & Central Asia	Europe
GA-Gabon	Sub-Saharan Africa	Africa
GB-United Kingdom	Europe & Central Asia	Europe
GD-Grenada	Latin America & Caribbean	North America
GE-Georgia	Europe & Central Asia	Europe
GH-Ghana	Sub-Saharan Africa	Africa
GI-Gibraltar	Europe & Central Asia	Europe
GM-Gambia	Sub-Saharan Africa	Africa
GN-Guinea	Sub-Saharan Africa	Africa
GQ-Equatorial Guinea	Sub-Saharan Africa	Africa
GR-Greece	Europe & Central Asia	Europe
GT-Guatemala	Latin America & Caribbean	North America
GW-Guinea-Bissau	Sub-Saharan Africa	Africa
GY-Guyana	Latin America & Caribbean	South America
HK-Hong Kong	East Asia & Pacific	Asia
HN-Honduras	Latin America & Caribbean	North America
HR-Croatia	Europe & Central Asia	Europe
HT-Haiti	Latin America & Caribbean	North America
HU-Hungary	Europe & Central Asia	Europe
ID-Indonesia	East Asia & Pacific	Asia

ISO country code and ISO country name	Region	Continent
IE-Ireland	Europe & Central Asia	Europe
IL-Israel	Middle East & North Africa	Asia
IN-India	South Asia	Asia
IQ-Iraq	Middle East & North Africa	Asia
IR-Iran, Islamic Republic of	Middle East & North Africa	Asia
IS-Iceland	Europe & Central Asia	Europe
IT-Italy	Europe & Central Asia	Europe
JE-Jersey	Europe & Central Asia	Europe
JM-Jamaica	Latin America & Caribbean	North America
JO-Jordan	Middle East & North Africa	Asia
JP-Japan	East Asia & Pacific	Asia
KE-Kenya	Sub-Saharan Africa	Africa
KG-Kyrgyzstan	Europe & Central Asia	Asia
KH-Cambodia	East Asia & Pacific	Asia
KI-Kiribati	East Asia & Pacific	Oceania
KM-Comoros	Sub-Saharan Africa	Africa
KN-Saint Kitts & Nevis	Latin America & Caribbean	North America
KR-Korea, Republic of	East Asia & Pacific	Asia
KW-Kuwait	Middle East & North Africa	Asia
KY-Cayman Islands	Latin America & Caribbean	North America
KZ-Kazakhstan	Europe & Central Asia	Europe
LA-Lao, People's Democratic Republic	East Asia & Pacific	Asia
LB-Lebanon	Middle East & North Africa	Asia
LC-Saint Lucia	Latin America & Caribbean	North America
LK-Sri Lanka	South Asia	Asia
LR-Liberia	Sub-Saharan Africa	Africa
LS-Lesotho	Sub-Saharan Africa	Africa
LT-Lithuania	Europe & Central Asia	Europe
LU-Luxembourg	Europe & Central Asia	Europe
LV-Latvia	Europe & Central Asia	Europe
MA-Morocco	Middle East & North Africa	Africa
MD-Moldova, Republic of	Europe & Central Asia	Europe
ME-Montenegro	Europe & Central Asia	Europe
MG-Madagascar	Sub-Saharan Africa	Africa
MK-Macedonia, The Former Yugoslav Republic of	Europe & Central Asia	Europe
ML-Mali	Sub-Saharan Africa	Africa
MM-Myanmar	East Asia & Pacific	Asia
MN-Mongolia	East Asia & Pacific	Asia
MR-Mauritania	Sub-Saharan Africa	Africa
MS-Montserrat	Latin America & Caribbean	North America
MT-Malta	Middle East & North Africa	Europe

ISO country code and ISO country name	Region	Continent
MU-Mauritius	Sub-Saharan Africa	Africa
MV-Maldives	South Asia	Asia
MW-Malawi	Sub-Saharan Africa	Africa
MX-Mexico	Latin America & Caribbean	North America
MY-Malaysia	East Asia & Pacific	Asia
MZ-Mozambique	Sub-Saharan Africa	Africa
NA-Namibia	Sub-Saharan Africa	Africa
NC-New Caledonia	East Asia & Pacific	Oceania
NE-Niger	Sub-Saharan Africa	Africa
NG-Nigeria	Sub-Saharan Africa	Africa
NI-Nicaragua	Latin America & Caribbean	North America
NL-Netherlands	Europe & Central Asia	Europe
NO-Norway	Europe & Central Asia	Europe
NP-Nepal	South Asia	Asia
OM-Oman	Middle East & North Africa	Asia
OT-Other	Other	Other
PA-Panama	Latin America & Caribbean	North America
PE-Peru	Latin America & Caribbean	South America
PF-French Polynesia	East Asia & Pacific	Oceania
PG-Papua New Guinea	East Asia & Pacific	Oceania
PH-Philippines	East Asia & Pacific	Asia
PK-Pakistan	South Asia	Asia
PL-Poland	Europe & Central Asia	Europe
PS-Palestine, State of ³	Middle East & North Africa	Asia
PT-Portugal	Europe & Central Asia	Europe
PW-Palau	East Asia & Pacific	Oceania
PY-Paraguay	Latin America & Caribbean	South America
QA-Qatar	Middle East & North Africa	Asia
REG-Regional	Regional	Regional
RO-Romania	Europe & Central Asia	Europe
RS-Republic of Serbia	Europe & Central Asia	Europe
RU-Russia	Europe & Central Asia	Europe
RW-Rwanda	Sub-Saharan Africa	Africa
SA-Saudi Arabia	Middle East & North Africa	Asia
SB-Solomon Islands	East Asia & Pacific	Oceania
SC-Seychelles	Sub-Saharan Africa	Africa
SD-Sudan	Sub-Saharan Africa	Africa
SE-Sweden	Europe & Central Asia	Europe
SG-Singapore	East Asia & Pacific	Asia
SI-Slovenia	Europe & Central Asia	Europe
SK-Slovakia	Europe & Central Asia	Europe

³ This designation shall not be construed as recognition of a State of Palestine and is without prejudice to the individual positions of the Member States on this issue.

ISO country code and ISO country name	Region	Continent
SL-Sierra Leone	Sub-Saharan Africa	Africa
SN-Senegal	Sub-Saharan Africa	Africa
SO-Somalia	Sub-Saharan Africa	Africa
SR-Suriname	Latin America & Caribbean	South America
SS-South Sudan	Sub-Saharan Africa	Africa
SV-El Salvador	Latin America & Caribbean	North America
SY-Syrian Arab Republic	Middle East & North Africa	Asia
SZ-Swaziland	Sub-Saharan Africa	Africa
TC-Turks and Caicos Islands	Latin America & Caribbean	North America
TD-Chad	Sub-Saharan Africa	Africa
TG-Togo	Sub-Saharan Africa	Africa
TH-Thailand	East Asia & Pacific	Asia
TJ-Tajikistan	Europe & Central Asia	Asia
TL-Timor-Leste	East Asia & Pacific	Asia
TM-Turkmenistan	Europe & Central Asia	Asia
TN-Tunisia	Middle East & North Africa	Africa
TO-Tonga	East Asia & Pacific	Oceania
TR-Türkiye	Europe & Central Asia	Europe
TT-Trinidad and Tobago	Latin America & Caribbean	North America
TV-Tuvalu	East Asia & Pacific	Oceania
TW-Taiwan, Province of China	East Asia & Pacific	Asia
TZ-Tanzania, United Republic of	Sub-Saharan Africa	Africa
UA-Ukraine	Europe & Central Asia	Europe
UG-Uganda	Sub-Saharan Africa	Africa
US-United States	North America	North America
UY-Uruguay	Latin America & Caribbean	South America
UZ-Uzbekistan	Europe & Central Asia	Asia
VC-Saint Vincent and the Grenadines	Latin America & Caribbean	North America
VE-Venezuela	Latin America & Caribbean	South America
VG-Virgin Islands, British	Latin America & Caribbean	North America
VN-Viet Nam	East Asia & Pacific	Asia
VU-Vanuatu	East Asia & Pacific	Oceania
WS-Samoa	East Asia & Pacific	Oceania
XK-Kosovo ⁴ (temporary code)	Europe & Central Asia	Europe
YE-Yemen	Middle East & North Africa	Asia
ZA-South Africa	Sub-Saharan Africa	Africa
ZM-Zambia	Sub-Saharan Africa	Africa
ZW-Zimbabwe	Sub-Saharan Africa	Africa

⁴ This designation is without prejudice to positions on status and it is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

Annex 2 – Mapping of GICS, NACE and NAICS sectors to sector groupings

Sector group: infrastructure		
Sector categorisation	Sector code	Description
GICS 2018	10102040	Oil & gas storage & transport
GICS 2018	20201050	Environmental & facilities services
GICS 2018	20301010	Air freight & logistics
GICS 2018	20302010	Airlines
GICS 2018	20303010	Marine
GICS 2018	20304010	Railroads
GICS 2018	20304020	Trucking
GICS 2018	20305010	Airport services
GICS 2018	20305020	Highways & railtracks
GICS 2018	20305030	Marine ports & services
GICS 2018	35102020	Health care facilities
GICS 2018	50101010	Alternative carriers
GICS 2018	50101020	Integrated telecommunication services
GICS 2018	50102010	Wireless telecommunication services
GICS 2018	50201030	Cable & satellite
GICS 2018	50202010	Movies & entertainment
GICS 2018	50202020	Interactive home entertainment
GICS 2018	50203010	Interactive media & services
GICS 2018	55102010	Gas utilities
GICS 2018	55103010	Multiutilities
GICS 2018	55104010	Water utilities
GICS 2018	55105010	Independent power producers & energy traders
GICS 2018	55105020	Renewable electricity
NACE 2	18.2	Reproduction of recorded media
NACE 2	18.2	Reproduction of recorded media
NACE 2	35.14	Trade of electricity
NACE 2	35.22	Distribution of gaseous fuels through mains
NACE 2	35.23	Trade of gas through mains
NACE 2	35.3	Steam and air conditioning supply
NACE 2	35.3	Steam and air conditioning supply
NACE 2	36	Water collection, treatment and supply
NACE 2	37	Sewerage
NACE 2	38	Waste collection, treatment and disposal activities; materials recovery
NACE 2	38.1	Waste collection
NACE 2	38.11	Collection of non-hazardous waste
NACE 2	38.12	Collection of hazardous waste
NACE 2	38.2	Waste treatment and disposal

Sector group: infrastructure		
Sector categorisation	Sector code	Description
NACE 2	38.21	Treatment and disposal of non-hazardous waste
NACE 2	38.22	Treatment and disposal of hazardous waste
NACE 2	38.3	Materials recovery
NACE 2	38.31	Dismantling of wrecks
NACE 2	38.32	Recovery of sorted materials
NACE 2	39	Remediation activities and other waste management services
NACE 2	46.71	Wholesale of solid, liquid and gaseous fuels and related products
NACE 2	49	Land transport and transport via pipelines
NACE 2	49.1	Passenger rail transport, interurban
NACE 2	49.1	Passenger rail transport, interurban
NACE 2	49.2	Freight rail transport
NACE 2	49.2	Freight rail transport
NACE 2	49.3	Other passenger land transport
NACE 2	49.31	Urban and suburban passenger land transport
NACE 2	49.32	Taxi operation
NACE 2	49.39	Other passenger land transport n.e.c.
NACE 2	49.4	Freight transport by road and removal services
NACE 2	49.41	Freight transport by road
NACE 2	49.42	Removal services
NACE 2	49.5	Transport via pipeline
NACE 2	49.5	Transport via pipeline
NACE 2	50	Water transport
NACE 2	50.1	Sea and coastal passenger water transport
NACE 2	50.1	Sea and coastal passenger water transport
NACE 2	50.2	Sea and coastal freight water transport
NACE 2	50.2	Sea and coastal freight water transport
NACE 2	50.3	Inland passenger water transport
NACE 2	50.3	Inland passenger water transport
NACE 2	50.4	Inland freight water transport
NACE 2	50.4	Inland freight water transport
NACE 2	51	Air transport
NACE 2	51.1	Passenger air transport
NACE 2	51.1	Passenger air transport
NACE 2	51.2	Freight air transport and space transport
NACE 2	51.21	Freight air transport
NACE 2	52	Warehousing and support activities for transport
NACE 2	52.2	Support activities for transport
NACE 2	52.21	Service activities incidental to land transport
NACE 2	52.22	Service activities incidental to water transport
NACE 2	52.23	Service activities incidental to air transport
NACE 2	52.24	Cargo handling

Sector group: infrastructure		
Sector categorisation	Sector code	Description
NACE 2	52.29	Other transport support activities
NACE 2	53	Postal and courier activities
NACE 2	53.1	Postal activities under universal service obligation
NACE 2	53.1	Postal activities under universal service obligation
NACE 2	53.2	Other postal and courier activities
NACE 2	53.2	Other postal and courier activities
NACE 2	58.21	Publishing of computer games
NACE 2	59.11	Motion picture, video and television programme production activities
NACE 2	59.12	Motion picture, video and television programme post-production activities
NACE 2	59.13	Motion picture, video and television programme distribution activities
NACE 2	59.14	Motion picture projection activities
NACE 2	59.2	Sound recording and music publishing activities
NACE 2	59.2	Sound recording and music publishing activities
NACE 2	61.1	Wired telecommunications activities
NACE 2	61.1	Wired telecommunications activities
NACE 2	61.2	Wireless telecommunications activities
NACE 2	61.2	Wireless telecommunications activities
NACE 2	61.9	Other telecommunications activities
NACE 2	61.9	Other telecommunications activities
NACE 2	63.12	Web portals
NACE 2	63.99	Other information service activities n.e.c.
NACE 2	75	Veterinary activities
NACE 2	77.11	Renting and leasing of cars and light motor vehicles
NACE 2	77.12	Renting and leasing of trucks
NACE 2	77.34	Renting and leasing of water transport equipment
NACE 2	81.1	Combined facilities support activities
NACE 2	81.1	Combined facilities support activities
NACE 2	81.21	General cleaning of buildings
NACE 2	81.29	Other cleaning activities
NACE 2	81.3	Landscape service activities
NACE 2	81.3	Landscape service activities
NACE 2	86	Human health activities
NACE 2	86.1	Hospital activities
NACE 2	86.1	Hospital activities
NACE 2	87	Residential care activities
NACE 2	87.1	Residential nursing care activities
NACE 2	87.1	Residential nursing care activities
NACE 2	87.2	Residential care activities for mental retardation, mental health and substance abuse

Sector group: infrastructure		
Sector categorisation	Sector code	Description
NACE 2	87.2	Residential care activities for mental retardation, mental health and substance abuse
NACE 2	87.3	Residential care activities for the elderly and disabled
NACE 2	87.3	Residential care activities for the elderly and disabled
NACE 2	87.9	Other residential care activities
NACE 2	87.9	Other residential care activities
NACE 2	88	Social work activities without accommodation
NACE 2	88.1	Social work activities without accommodation for the elderly and disabled
NACE 2	88.1	Social work activities without accommodation for the elderly and disabled
NACE 2	90	Creative, arts and entertainment activities
NACE 2	90	Creative, arts and entertainment activities
NACE 2	90.01	Performing arts
NACE 2	90.02	Support activities to performing arts
NACE 2	90.03	Artistic creation
NACE 2	93.12	Activities of sport clubs
NACE 2	93.19	Other sports activities
NAICS 2017	221111	Hydroelectric power generation
NAICS 2017	221114	Solar electric power generation
NAICS 2017	221115	Wind electric power generation
NAICS 2017	221116	Geothermal electric power generation
NAICS 2017	221117	Biomass electric power generation
NAICS 2017	221210	Gas utilities
NAICS 2017	221310	Water utilities
NAICS 2017	221320	Water utilities
NAICS 2017	221330	Multiutilities
NAICS 2017	336510	Railroads
NAICS 2017	336611	Marine ports & services
NAICS 2017	481111	Airlines
NAICS 2017	481112	Airlines
NAICS 2017	481211	Airlines
NAICS 2017	481212	Airlines
NAICS 2017	481219	Airlines
NAICS 2017	482111	Railroads
NAICS 2017	482112	Railroads
NAICS 2017	483111	Marine
NAICS 2017	483112	Marine
NAICS 2017	483113	Marine
NAICS 2017	483114	Marine
NAICS 2017	483211	Marine

Sector group: infrastructure		
Sector categorisation	Sector code	Description
NAICS 2017	483212	Marine
NAICS 2017	484110	Trucking
NAICS 2017	484122	Trucking
NAICS 2017	485111	Airport services
NAICS 2017	485112	Airport services
NAICS 2017	485113	Airport services
NAICS 2017	485119	Airport services
NAICS 2017	485210	Airport services
NAICS 2017	485310	Airport services
NAICS 2017	485320	Airport services
NAICS 2017	485410	Airport services
NAICS 2017	485510	Airport services
NAICS 2017	485991	Airport services
NAICS 2017	485999	Airport services
NAICS 2017	486110	Oil & gas storage & transport
NAICS 2017	486210	Oil & gas storage & transport
NAICS 2017	486910	Oil & gas storage & transport
NAICS 2017	486990	Oil & gas storage & transport
NAICS 2017	488119	Air freight & logistics
NAICS 2017	488210	Air freight & logistics
NAICS 2017	488310	Marine ports & services
NAICS 2017	488490	Highways & railtracks
NAICS 2017	488999	Air freight & logistics
NAICS 2017	517311	Alternative carriers
NAICS 2017	517312	Wireless telecommunication services
NAICS 2017	517911	Integrated telecommunication services
NAICS 2017	562111	Environmental & facilities services
NAICS 2017	562112	Environmental & facilities services
NAICS 2017	562119	Environmental & facilities services
NAICS 2017	562211	Environmental & facilities services
NAICS 2017	562212	Environmental & facilities services
NAICS 2017	562213	Environmental & facilities services
NAICS 2017	562219	Environmental & facilities services
NAICS 2017	562910	Environmental & facilities services
NAICS 2017	562920	Environmental & facilities services
NAICS 2017	562998	Environmental & facilities services
NAICS 2017	62141	Health care facilities
NAICS 2017	62142	Health care facilities
NAICS 2017	62149	Health care facilities
NAICS 2017	622110	Health care facilities
NAICS 2017	622210	Health care facilities
NAICS 2017	622310	Health care facilities

Sector group: Non-Bank Financials		
Sector categorisation	Sector code	Description
GICS 2018	40102010	Thriffs & mortgage finance
GICS 2018	40201020	Other diversified financial services
GICS 2018	40201030	Multisector holdings
GICS 2018	40201040	Specialized finance
GICS 2018	40203010	Asset management & custody banks
GICS 2018	40203020	Investment banking & brokerage
GICS 2018	40203030	Diversified capital markets
GICS 2018	40203040	Financial exchanges & data
GICS 2018	40204010	Mortgage real estate investment trusts
GICS 2018	40301010	Insurance brokers
GICS 2018	40301020	Life & health insurance
GICS 2018	40301030	Multiline insurance
GICS 2018	40301040	Property & casualty insurance
GICS 2018	40301050	Reinsurance
NACE 2	64	Financial service activities, except insurance and pension funding
NACE 2	64.1	Monetary intermediation
NACE 2	64.11	Central banking
NACE 2	64.3	Trusts, funds and similar financial entities
NACE 2	64.3	Trusts, funds and similar financial entities
NACE 2	64.9	Other financial service activities, except insurance and pension funding
NACE 2	64.91	Financial leasing
NACE 2	64.92	Other credit granting
NACE 2	64.99	Other financial service activities, except insurance and pension funding n.e.c.
NACE 2	65	Insurance, reinsurance and pension funding, except compulsory social security
NACE 2	65.1	Insurance
NACE 2	65.11	Life insurance
NACE 2	65.12	Non-life insurance
NACE 2	65.2	Reinsurance
NACE 2	65.2	Reinsurance
NACE 2	65.3	Pension funding
NACE 2	65.3	Pension funding
NACE 2	66	Activities auxiliary to financial services and insurance activities
NACE 2	66.1	Activities auxiliary to financial services, except insurance and pension funding
NACE 2	66.11	Administration of financial markets
NACE 2	66.12	Security and commodity contracts brokerage
NACE 2	66.19	Other activities auxiliary to financial services, except insurance and pension funding
NACE 2	66.2	Activities auxiliary to insurance and pension funding

Sector group: Non-Bank Financials		
Sector categorisation	Sector code	Description
NACE 2	66.21	Risk and damage evaluation
NACE 2	66.22	Activities of insurance agents and brokers
NACE 2	66.29	Other activities auxiliary to insurance and pension funding
NACE 2	66.3	Fund management activities
NACE 2	66.3	Fund management activities
NAICS 2017	332311	Industrial real estate investment trusts
NAICS 2017	522291	Consumer lending
NAICS 2017	522292	Thriffs & mortgage finance
NAICS 2017	522293	International trade financing
NAICS 2017	522298	Thriffs & mortgage finance
NAICS 2017	522310	Specialized finance
NAICS 2017	522320	Other diversified financial services
NAICS 2017	522390	Other diversified financial services
NAICS 2017	523110	Investment banking & brokerage
NAICS 2017	523120	Securities brokerage
NAICS 2017	523210	Specialized finance
NAICS 2017	523920	Asset management & custody banks
NAICS 2017	523930	Other diversified financial services
NAICS 2017	523991	Trust, fiduciary and custody activities
NAICS 2017	52411	Life & health insurance
NAICS 2017	524113	Insurance brokers
NAICS 2017	524114	Insurance brokers
NAICS 2017	52412	Property & casualty insurance
NAICS 2017	524126	Insurance brokers
NAICS 2017	524127	Insurance brokers
NAICS 2017	524128	Insurance brokers
NAICS 2017	52413	Reinsurance
NAICS 2017	525910	Asset management & custody banks
NAICS 2017	525990	Specialized finance
NAICS 2017	531110	Real estate services
NAICS 2017	531111	Real estate services
NAICS 2017	531120	Diversified real estate activities
NAICS 2017	531130	Lessors of mini warehouses and self-storage units
NAICS 2017	531190	Lessors of other real estate property
NAICS 2017	531312	Diversified real estate activities
NAICS 2017	532111	Passenger car rental
NAICS 2017	532112	Passenger car leasing
NAICS 2017	53212	Truck, utility trailer and recreational vehicle rental and leasing
NAICS 2017	532120	Truck, utility trailer and recreational vehicle rental and leasing
NAICS 2017	53221	Consumer electronics and appliances rental
NAICS 2017	532210	Consumer electronics and appliances rental

Sector group: Non-Bank Financials		
Sector categorisation	Sector code	Description
NAICS 2017	53228	Other consumer goods rental
NAICS 2017	532310	General rental centres
NAICS 2017	532411	Commercial air, rail and water transport equipment rental and leasing
NAICS 2017	532412	Construction, mining and forestry machinery and equipment rental and leasing
NAICS 2017	532420	Office machinery and equipment rental and leasing
NAICS 2017	532490	Other commercial and industrial machinery and equipment rental and leasing
NAICS 2017	561450	Specialized finance

Sector group: Renewables		
Sector categorisation	Sector code	Description
GICS 2018	55105010	Independent power producers & energy traders
GICS 2018	55105020	Renewable electricity
NAICS 2017	221111	Hydroelectric power generation
NAICS 2017	221114	Solar electric power generation
NAICS 2017	221115	Wind electric power generation
NAICS 2017	221116	Geothermal electric power generation
NAICS 2017	221117	Biomass electric power generation

Sector group: Services		
Sector categorisation	Sector code	Description
GICS 2018	10101020	Oil & gas equipment & services
GICS 2018	20201050	Environmental & facilities services
GICS 2018	20201070	Diversified support services
GICS 2018	20201080	Security & alarm services
GICS 2018	20202010	Human resource & employment services
GICS 2018	20202020	Research & consulting services
GICS 2018	20305010	Airport services
GICS 2018	25302010	Education services
GICS 2018	25302020	Specialized consumer services
GICS 2018	35102015	Health care services
GICS 2018	35102030	Managed health care
GICS 2018	35203010	Life sciences tools & services
GICS 2018	40201020	Other diversified financial services
GICS 2018	50101010	Alternative carriers
GICS 2018	50101020	Integrated telecommunication services
GICS 2018	50102010	Wireless telecommunication services
GICS 2018	50201020	Broadcasting
GICS 2018	50201030	Cable & satellite

Sector group: Services		
Sector categorisation	Sector code	Description
GICS 2018	50201040	Publishing
GICS 2018	50202010	Movies & entertainment
GICS 2018	50202020	Interactive home entertainment
GICS 2018	50203010	Interactive media & services
NACE 2	18.2	Reproduction of recorded media
NACE 2	18.2	Reproduction of recorded media
NACE 2	21.2	Manufacture of pharmaceutical preparations
NACE 2	21.2	Manufacture of pharmaceutical preparations
NACE 2	33.11	Repair of fabricated metal products
NACE 2	33.12	Repair of machinery
NACE 2	33.13	Repair of electronic and optical equipment
NACE 2	33.14	Repair of electrical equipment
NACE 2	33.19	Repair of other equipment
NACE 2	33.2	Installation of industrial machinery and equipment
NACE 2	33.2	Installation of industrial machinery and equipment
NACE 2	37	Sewerage
NACE 2	38.11	Collection of non-hazardous waste
NACE 2	38.12	Collection of hazardous waste
NACE 2	38.21	Treatment and disposal of non-hazardous waste
NACE 2	38.22	Treatment and disposal of hazardous waste
NACE 2	38.31	Dismantling of wrecks
NACE 2	38.32	Recovery of sorted materials
NACE 2	39	Remediation activities and other waste management services
NACE 2	45.2	Maintenance and repair of motor vehicles
NACE 2	45.2	Maintenance and repair of motor vehicles
NACE 2	52.1	Warehousing and storage
NACE 2	52.1	Warehousing and storage
NACE 2	52.23	Service activities incidental to air transport
NACE 2	58	Publishing activities
NACE 2	58.1	Publishing of books, periodicals and other publishing activities
NACE 2	58.11	Book publishing
NACE 2	58.12	Publishing of directories and mailing lists
NACE 2	58.13	Publishing of newspapers
NACE 2	58.14	Publishing of journals and periodicals
NACE 2	58.19	Other publishing activities
NACE 2	58.2	Software publishing
NACE 2	58.21	Publishing of computer games
NACE 2	59	Motion picture, video and television programme production, sound recording and music publishing activities
NACE 2	59.1	Motion picture, video and television programme activities
NACE 2	59.11	Motion picture, video and television programme production activities

Sector group: Services		
Sector categorisation	Sector code	Description
NACE 2	59.12	Motion picture, video and television programme post-production activities
NACE 2	59.13	Motion picture, video and television programme distribution activities
NACE 2	59.14	Motion picture projection activities
NACE 2	59.2	Sound recording and music publishing activities
NACE 2	59.2	Sound recording and music publishing activities
NACE 2	60	Programming and broadcasting activities
NACE 2	60.1	Radio broadcasting
NACE 2	60.1	Radio broadcasting
NACE 2	60.2	Television programming and broadcasting activities
NACE 2	60.2	Television programming and broadcasting activities
NACE 2	61	Telecommunications
NACE 2	61.1	Wired telecommunications activities
NACE 2	61.1	Wired telecommunications activities
NACE 2	61.2	Wireless telecommunications activities
NACE 2	61.2	Wireless telecommunications activities
NACE 2	61.3	Satellite telecommunications activities
NACE 2	61.3	Satellite telecommunications activities
NACE 2	61.9	Other telecommunications activities
NACE 2	61.9	Other telecommunications activities
NACE 2	63.12	Web portals
NACE 2	63.9	Other information service activities
NACE 2	63.91	News agency activities
NACE 2	64	Financial service activities, except insurance and pension funding
NACE 2	64.1	Monetary intermediation
NACE 2	64.3	Trusts, funds and similar financial entities
NACE 2	64.3	Trusts, funds and similar financial entities
NACE 2	64.9	Other financial service activities, except insurance and pension funding
NACE 2	65.1	Insurance
NACE 2	66	Activities auxiliary to financial services and insurance activities
NACE 2	66.1	Activities auxiliary to financial services, except insurance and pension funding
NACE 2	66.29	Other activities auxiliary to insurance and pension funding
NACE 2	69.1	Legal activities
NACE 2	69.1	Legal activities
NACE 2	69.2	Accounting, bookkeeping and auditing activities; tax consultancy
NACE 2	69.2	Accounting, bookkeeping and auditing activities; tax consultancy
NACE 2	70.1	Activities of head offices
NACE 2	70.1	Activities of head offices
NACE 2	70.2	Management consultancy activities

Sector group: Services		
Sector categorisation	Sector code	Description
NACE 2	70.21	Public relations and communication activities
NACE 2	70.22	Business and other management consultancy activities
NACE 2	71.11	Architectural activities
NACE 2	71.2	Technical testing and analysis
NACE 2	71.2	Technical testing and analysis
NACE 2	72.19	Other research and experimental development on natural sciences and engineering
NACE 2	72.2	Research and experimental development on social sciences and humanities
NACE 2	72.2	Research and experimental development on social sciences and humanities
NACE 2	73	Advertising and market research
NACE 2	73.1	Advertising
NACE 2	73.11	Advertising agencies
NACE 2	73.12	Media representation
NACE 2	73.2	Market research and public opinion polling
NACE 2	73.2	Market research and public opinion polling
NACE 2	74.1	Specialised design activities
NACE 2	74.1	Specialised design activities
NACE 2	74.2	Photographic activities
NACE 2	74.2	Photographic activities
NACE 2	74.3	Translation and interpretation activities
NACE 2	74.3	Translation and interpretation activities
NACE 2	74.9	Other professional, scientific and technical activities n.e.c.
NACE 2	74.9	Other professional, scientific and technical activities n.e.c.
NACE 2	77	Rental and leasing activities
NACE 2	77.1	Renting and leasing of motor vehicles
NACE 2	77.2	Renting and leasing of personal and household goods
NACE 2	77.3	Renting and leasing of other machinery, equipment and tangible goods
NACE 2	77.4	Leasing of intellectual property and similar products, except copyrighted works
NACE 2	77.4	Leasing of intellectual property and similar products, except copyrighted works
NACE 2	78	Employment activities
NACE 2	78.1	Activities of employment placement agencies
NACE 2	78.1	Activities of employment placement agencies
NACE 2	78.2	Temporary employment agency activities
NACE 2	78.2	Temporary employment agency activities
NACE 2	78.3	Other human resources provision
NACE 2	78.3	Other human resources provision
NACE 2	79	Travel agency, tour operator and other reservation service and related activities

Sector group: Services		
Sector categorisation	Sector code	Description
NACE 2	79.1	Travel agency and tour operator activities
NACE 2	80	Security and investigation activities
NACE 2	80.1	Private security activities
NACE 2	80.1	Private security activities
NACE 2	80.2	Security systems service activities
NACE 2	80.2	Security systems service activities
NACE 2	80.3	Investigation activities
NACE 2	80.3	Investigation activities
NACE 2	81	Services to buildings and landscape activities
NACE 2	81.1	Combined facilities support activities
NACE 2	81.1	Combined facilities support activities
NACE 2	81.2	Cleaning activities
NACE 2	81.21	General cleaning of buildings
NACE 2	81.22	Other building and industrial cleaning activities
NACE 2	81.29	Other cleaning activities
NACE 2	81.3	Landscape service activities
NACE 2	81.3	Landscape service activities
NACE 2	82	Office administrative, office support and other business support activities
NACE 2	82.1	Office administrative and support activities
NACE 2	82.3	Organisation of conventions and trade shows
NACE 2	82.3	Organisation of conventions and trade shows
NACE 2	82.9	Business support service activities n.e.c.
NACE 2	82.91	Activities of collection agencies and credit bureaus
NACE 2	82.92	Packaging activities
NACE 2	82.99	Other business support service activities n.e.c.
NACE 2	84.11	General public administration activities
NACE 2	84.12	Regulation of the activities of providing health care, education, cultural services and other social services, excluding social security
NACE 2	84.13	Regulation of and contribution to more efficient operation of businesses
NACE 2	84.21	Foreign affairs
NACE 2	84.23	Justice and judicial activities
NACE 2	84.24	Public order and safety activities
NACE 2	84.25	Fire service activities
NACE 2	84.3	Compulsory social security activities
NACE 2	84.3	Compulsory social security activities
NACE 2	85.1	Pre-primary education
NACE 2	85.1	Pre-primary education
NACE 2	85.2	Primary education
NACE 2	85.2	Primary education
NACE 2	85.31	General secondary education

Sector group: Services		
Sector categorisation	Sector code	Description
NACE 2	85.32	Technical and vocational secondary education
NACE 2	85.41	Post-secondary non-tertiary education
NACE 2	85.42	Tertiary education
NACE 2	85.51	Sports and recreation education
NACE 2	85.52	Cultural education
NACE 2	85.53	Driving school activities
NACE 2	85.59	Other education n.e.c.
NACE 2	85.6	Educational support activities
NACE 2	85.6	Educational support activities
NACE 2	86.21	General medical practice activities
NACE 2	86.22	Specialist medical practice activities
NACE 2	86.23	Dental practice activities
NACE 2	86.9	Other human health activities
NACE 2	86.9	Other human health activities
NACE 2	88.91	Child day-care activities
NACE 2	88.99	Other social work activities without accommodation n.e.c.
NACE 2	9.1	Support activities for petroleum and natural gas extraction
NACE 2	9.1	Support activities for petroleum and natural gas extraction
NACE 2	90	Creative, arts and entertainment activities
NACE 2	90	Creative, arts and entertainment activities
NACE 2	90.01	Performing arts
NACE 2	90.02	Support activities to performing arts
NACE 2	90.03	Artistic creation
NACE 2	93.12	Activities of sport clubs
NACE 2	93.19	Other sports activities
NACE 2	94	Activities of membership organisations
NACE 2	94.1	Activities of business, employers and professional membership organisations
NACE 2	94.11	Activities of business and employers membership organisations
NACE 2	94.12	Activities of professional membership organisations
NACE 2	94.2	Activities of trade unions
NACE 2	94.2	Activities of trade unions
NACE 2	94.9	Activities of other membership organisations
NACE 2	94.91	Activities of religious organisations
NACE 2	94.92	Activities of political organisations
NACE 2	94.99	Activities of other membership organisations n.e.c.
NACE 2	95	Repair of computers and personal and household goods
NACE 2	95.1	Repair of computers and communication equipment
NACE 2	95.2	Repair of personal and household goods
NACE 2	95.23	Repair of footwear and leather goods
NACE 2	95.25	Repair of watches, clocks and jewellery
NACE 2	96	Other personal service activities

Sector group: Services		
Sector categorisation	Sector code	Description
NACE 2	96	Other personal service activities
NACE 2	96.01	Washing and (dry-)cleaning of textile and fur products
NACE 2	96.02	Hairdressing and other beauty treatment
NACE 2	96.03	Funeral and related activities
NACE 2	96.04	Physical well-being activities
NACE 2	96.09	Other personal service activities n.e.c.
NACE 2	97	Activities of households as employers of domestic personnel
NACE 2	98	Undifferentiated goods- and services-producing activities of private households for own use
NACE 2	98.1	Undifferentiated goods-producing activities of private households for own use
NACE 2	98.1	Undifferentiated goods-producing activities of private households for own use
NACE 2	98.2	Undifferentiated service-producing activities of private households for own use
NACE 2	98.2	Undifferentiated service-producing activities of private households for own use
NACE 2	99	Activities of extraterritorial organisations and bodies
NAICS 2017	213112	Oil & gas equipment & services
NAICS 2017	485111	Airport services
NAICS 2017	485112	Airport services
NAICS 2017	485113	Airport services
NAICS 2017	485119	Airport services
NAICS 2017	485210	Airport services
NAICS 2017	485310	Airport services
NAICS 2017	485320	Airport services
NAICS 2017	485410	Airport services
NAICS 2017	485510	Airport services
NAICS 2017	485991	Airport services
NAICS 2017	485999	Airport services
NAICS 2017	493110	Diversified support services
NAICS 2017	493120	Diversified support services
NAICS 2017	493130	Diversified support services
NAICS 2017	49319	Diversified support services
NAICS 2017	515111	Broadcasting
NAICS 2017	515112	Broadcasting
NAICS 2017	515120	Broadcasting
NAICS 2017	517311	Alternative carriers
NAICS 2017	517312	Wireless telecommunication services
NAICS 2017	517911	Integrated telecommunication services
NAICS 2017	522320	Other diversified financial services
NAICS 2017	522390	Other diversified financial services
NAICS 2017	523930	Other diversified financial services

Sector group: Services		
Sector categorisation	Sector code	Description
NAICS 2017	531110	Real estate services
NAICS 2017	531111	Real estate services
NAICS 2017	541990	Research & consulting services
NAICS 2017	562111	Environmental & facilities services
NAICS 2017	562112	Environmental & facilities services
NAICS 2017	562119	Environmental & facilities services
NAICS 2017	562211	Environmental & facilities services
NAICS 2017	562212	Environmental & facilities services
NAICS 2017	562213	Environmental & facilities services
NAICS 2017	562219	Environmental & facilities services
NAICS 2017	562910	Environmental & facilities services
NAICS 2017	562920	Environmental & facilities services
NAICS 2017	562998	Environmental & facilities services
NAICS 2017	611110	Education services
NAICS 2017	611310	Education services
NAICS 2017	611610	Education services
NAICS 2017	611620	Education services
NAICS 2017	611630	Education services
NAICS 2017	611691	Education services
NAICS 2017	611692	Education services
NAICS 2017	611699	Education services
NAICS 2017	621511	Health care services

DEFAULT AND RECOVERY STATISTICS



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