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Allianz Research

Mind the gap: the USD30trn global liquidity gap is here to stay

Payment behaviours likely to deteriorate in 2023

Executive Summary

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- **Costly operations.** Global Working Capital Requirements (WCR) for listed companies increased by +9 days to 72 days of turnover in 2022 – the largest annual increase since 2008 – following an increase of +3 days in 2021. APAC (+10 days to 77 days of turnover incl. +15 to 59 days in China and +2 in Japan) and Western Europe (+7 days to 68 days) recorded the strongest increases, while North American and CEE firms only registered +6 additional days of WCR. Lower growth, higher inflation, the higher cost of financing and more non-payments explain this rise of WCR. As a result, companies are spending a lot of their financial resources just running the business and less on investment, product development, geographical expansion, acquisitions, modernisation or debt reduction.
- **Pay me later, maybe.** Day Sales Outstanding (DSO) and Days Inventories Outstanding (DIO) equally contributed to the annual rise in WCR, increasing by +5 days to 59 and 50 days, respectively, while DPO modestly accelerated (+1 to 36 days). This fast DSO increase means that the number of days it takes a company to receive payment for a sale is increasing and suggests that more companies are and will be experiencing delays in receiving payments, which can result in cash-flow problems. Overall, 17% of companies worldwide are paid after 90 days. Suppliers' role as the invisible bank is coming back in full force, increasing liquidity risks in the system.
- **Just in time to just in case.** Similarly, the physical supply disruptions of 2021 continued to affect corporate balance sheets. The shift from "just-in-time" inventory management to "just-in-case" turned shortages into oversupply. Today, 34% of companies have inventories exceeding 90 days of turnover, with four sectors noticeably most exposed: transport equipment (46%), textiles (39%), electronics (38%) and machinery equipment (36%).
- **In 2023, more of the same.** We forecast global WCR to remain broadly stable, both DSO and DPO should increase slightly (+5 combined) while DIO should decrease by about the same. Indeed, in a context of slowing economic activity, oversupply in manufacturing sectors and tightening financial conditions, inventories are likely to decrease while payment delays should increase as in previous economic downturns.
- **Liquidity matters.** Looking at the entire universe of companies, well beyond listed companies and including SMEs, our proprietary calculation of the global B2B liquidity gap is expected to remain stable at around USD30trn, with the US and Europe accounting for USD5trn each, and China representing a record USD12trn. In this period of uncertainty, the greatest financial relief we can give small and mid-sized businesses is faster payment of their outstanding invoices, and improved credit-management practices. The trillions tied up in receivables for small and mid-sized businesses worldwide continue to be both an impediment to growth and a major source of credit risk.

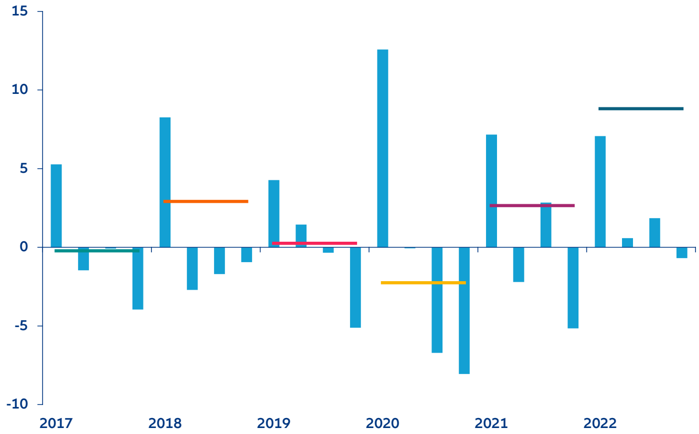
+9 days

increase in global Working Capital Requirements in 2022

Global WCR: costly operations

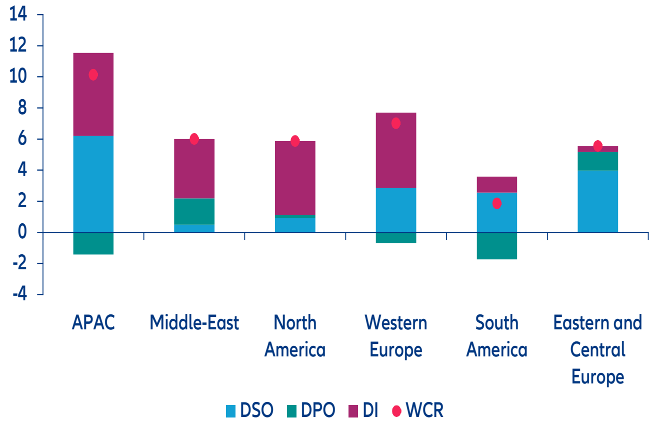
Global Working Capital Requirements (WCR) ended the 2022 seasonal roller coaster ride with the largest annual increase since 2008 (+9 days to 72). As in most previous years, global WCR increased significantly in Q1 2022 (+7 days q/q). However, unlike previous years, the changes proved to be much softer in the remaining three quarters of 2022, with a stabilisation in Q2 (+1), a rebound in Q3 (+2) and a moderate decrease in Q4 (-1) – see Figure 1. Overall, lower growth, higher inflation, the higher cost of financing and more non-payments pushed global WCR to increase over the whole year, ending with its largest annual increase since 2008 (+8 days). This compounded the +3 day rebound recorded in 2021, and pushing the global level of WCR to 72 days of turnover as of Q4 2022.

Figure 1: Global WCR, q/q change and annual change, in number of days in turnover



Sources: Eikon/Refinitiv, Allianz Research

Figure 2: 2022 WCR, annual changes by subcomponent, in number of days in turnover, by region



Sources: Eikon/Refinitiv, Allianz Research

The rebound in WCR proved to be broad-based across regions. APAC (+10 days incl. +15 in China and +2 in Japan) and Western Europe (+7) saw the largest increases in WCR, with North American, Middle-East and CEE firms less impacted and all registering +6 additional days. Overall, one out of three countries posted an increase in WCR above the global average, notably Germany and the Nordics in Western Europe and China, Taiwan and India in APAC. WCR reached 77 days at the end of 2022 in APAC (59 in China), 68 days in Western Europe and 69 days in North America. However, those average figures still mask noticeable discrepancies within countries, depending notably on the relative importance of sectors structurally posting higher WCR, such as transport equipment, machinery equipment, household equipment, metals, chemicals and electronics. Still, at a global level, we find that 34% of companies have WCR exceeding 90 days of turnover.

Days Sales Outstanding and inventories equally contributed to the annual rise in global WCR. DSO and Days Inventory Outstanding (DIO) both increased by +5 days to 59 and 50 days, respectively, as of Q4 2022. At the same time, Days Payable Outstanding modestly accelerated (+1 to 36 days).

While changes in inventories have been the driving force behind WCR in nine out of 10 cases since 2008, the physical supply disruptions of 2021 hit corporate balance sheets hard. The ensuing shift from “just-in-time” inventory management to “just-in-case” turned shortages into oversupply. Overall, the global increase recorded in 2022 (+5) is the largest since 2008 (+8) and follows the increase of +3 days posted in 2021.

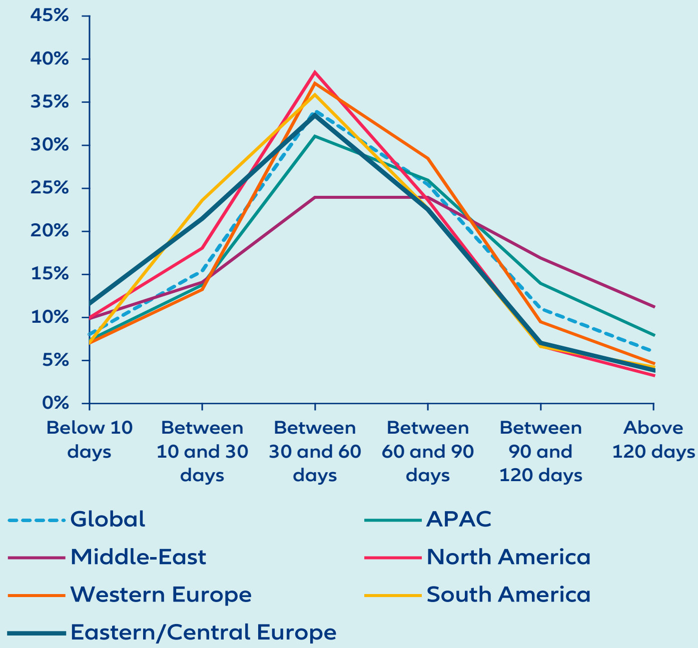
The increase in global DSO is by far the largest seen since 2008, which implies that more companies are facing longer delays in receiving payments, which could bring about cash-flow issues. However, there are significant differences between regions, countries and sectors.

In APAC, the surge in WCR (+10 days) was close to the record rise posted in 2008 (+12 days), reinforcing the trend already in place in 2021 (+3). All countries but Singapore faced increases, ranging from +2 days in Japan to +12 in India and +15 in China. Yet, unlike in 2021, both extended payment delays and larger inventories significantly contributed to the increase, with DSO accelerating to +6 days in 2022 from +1 day in 2021, and inventories jumping by +5 days in 2022 from +6 days in 2021. Mainland China and Hong Kong stand out as the two markets posting a triple jump (DSO, inventories and WCR) while, conversely, Singapore managed to keep all under control. It was alone in seeing a decline in WCR (-3 days). As of Q4 2022, WCR in APAC stood at 77 days of turnover, with DSO above the global average (at 65 days). APAC also has the second-largest proportion of firms exposed to the longest DSO and thus to cash-flow risks: In APAC, 22% of companies are paid after 90 days.

North America stands out with a rebound in WCR, largely triggered by a major rise in inventories (+5 days). As in previous years, DSO and DPO both posted limited changes, with a muted increase in DSO (+1) and DPO remaining flat (+0). The jump in WCR (+6 days) exceeded its previous record of 2008 (+5), boosted by the US (+5 days) and to a lesser extent Canada (+1), where the faster DPO (+4) offset the rise in inventories. Overall, North America's WCR reached 69 days as of Q4 2022, i.e. still 3 days below the global average. The region boasts the lowest share of firms exposed to the longest DSO, with only 10% of companies being paid after 90 days. At the same time, North America has a high share of firms being paid in less than 10 days (10% as of Q4 2022). This preference for cash is fully translated into the DSO figures, which are below the 50-days threshold in the US (49) and Canada (47) – at least in average terms.

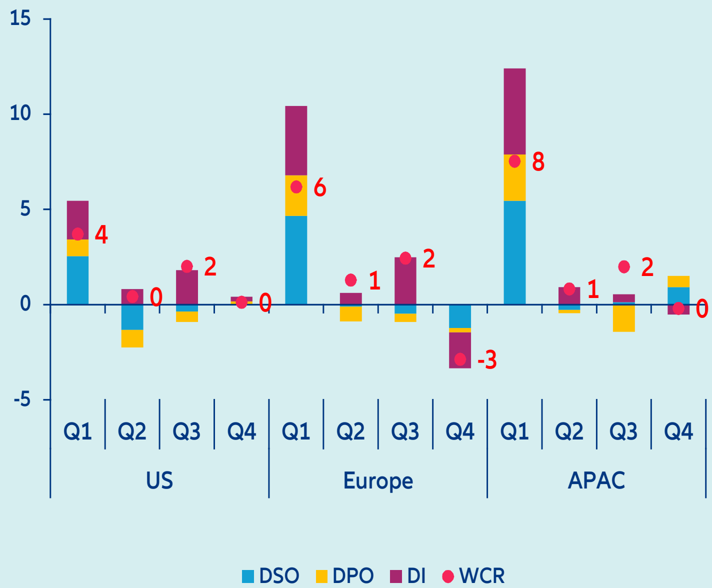
In Western Europe, firms significantly felt the pinch of the various economic disruptions and shocks of 2022, notably through via inventories – despite a decrease in the end of the period. On the one hand, the region posted the second-largest increase in WCR (+7 days), ahead of North America (+6), a record high over the period under study. On the other hand, and conversely to North America, changes in payment behaviour have enlarged the rise in WCR already coming from inventories (+5) since the limited rise in DPO (+1 day) did not compensate for the extension of DSO (+3). At the regional level, WCR represented 68 days of turnover as of Q4 2022, with DSO standing slightly below the global average (56 days). Western Europe also records a dispersion of DSO close to the global average since 7% of firms are paid in less than 10 days and 14% in more than 90 days. However, European countries continue to post noticeable differences in DSO, with shorter average DSO in Germany and the Nordics and longer ones in Southern Europe, notably in Spain and Italy.

Figure 3: Q4 2022 DSO, by number of days in turnover, by region, in % of number of firms



Sources: Eikon/Refinitiv, Allianz Research

Figure 4: 2022 WCR, quarterly changes by subcomponent, in number of days in turnover



Sources: Eikon/Refinitiv, Allianz Research

Sector overview

Almost all sectors faced a rebound in DSO, inventories and WCR. By definition, sectorial dynamics strongly influenced the average outcome in terms of DSO, DPO, DIO and WCR for each region/country. Their effect depended on the relative importance of each sector, given their structural differences (i.e. manufacturing vs. services, upstream vs. downstream, B2B vs B2C) and their uneven vulnerability to the economic cycle and shocks. At the global level, however, 2022 stands out for the general rebound in DSO, DPO, inventories and WCR in almost all sectors – see Figure 5 – which reinforced the usual discrepancies in levels registered across sectors.

Looking at WCR, in relative terms, the sectors spending the most of their financial resources just running the business are textiles (99 days of turnover), transport equipment (108 days of turnover), machinery equipment (111) and electronics (117), ahead of pharmaceuticals, chemicals and metals. At the opposite of the spectrum, we find hotels/restaurants/tourism (11), other B2C services (28) and transportation (30). In terms of DSO, the picture is broadly the same, with two main exceptions: construction, recording one of the largest DSO (72), and retail, posting the second-lowest DSO (24) thanks to its cash-paying customers.

Figure 5: 2022 WCR subcomponent, by global sectors, in number of days of turnover,

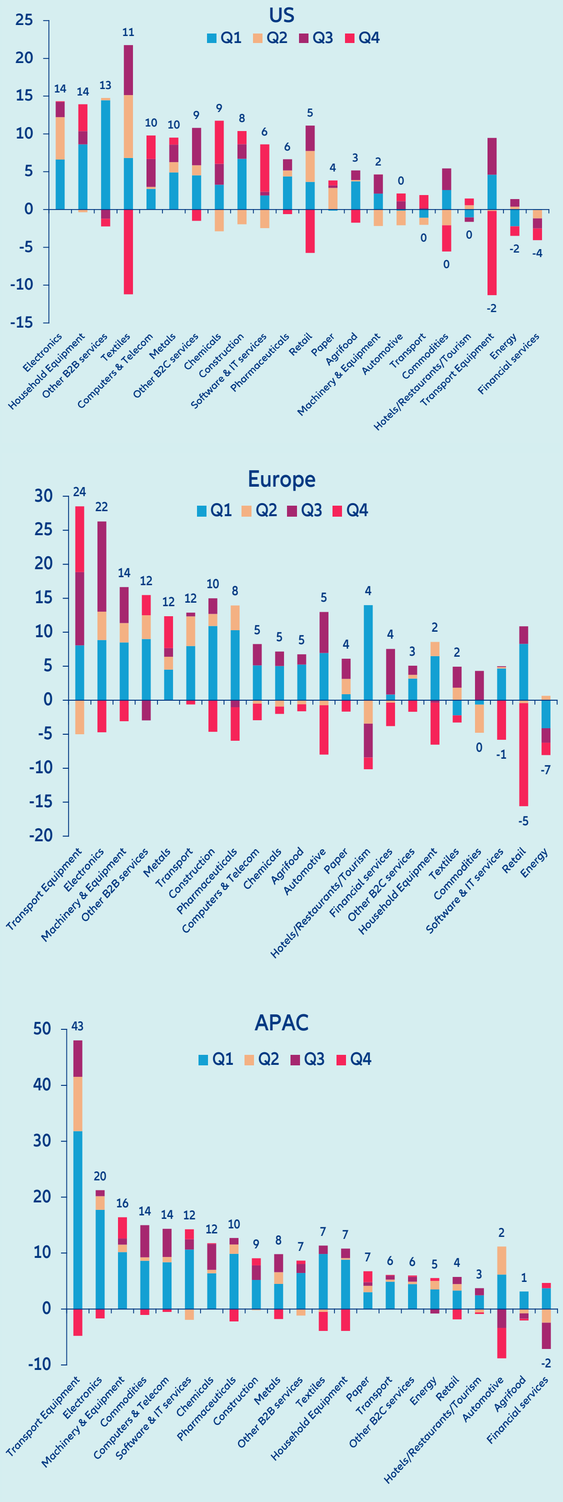
GLOBAL SECTORS	2022 changes				Q4 2022 level			
	DSO	DPO	DIO	WCR	DSO	DPO	DIO	WCR
Agrifood	7	5	-1	1	50	39	48	59
Automotive	2	1	1	3	51	43	56	65
Chemicals	5	1	8	11	69	43	65	91
Commodities	10	1	-2	7	56	37	13	32
Computers & Telecom	3	0	10	13	68	40	64	92
Construction	7	1	2	8	72	44	48	77
Electronics	8	0	9	18	72	33	78	117
Energy	-1	-2	0	1	48	34	23	37
Household Equipment	3	-1	4	9	62	39	66	89
Machinery & Equipment	6	2	9	14	79	47	79	111
Metals	5	2	5	9	65	43	70	91
Paper	4	3	5	6	63	49	46	60
Pharmaceuticals	7	1	5	10	68	35	62	94
Retail	3	2	3	4	24	34	46	36
Financial services	0	3	1	-2	46	23	34	58
Hotels/Restaurants/Tourism	2	0	0	2	20	19	11	11
Other B2B services	7	1	3	9	59	29	22	53
Other B2C services	5	2	3	6	35	19	12	28
Software & IT services	8	2	3	10	62	24	15	53
Textiles	1	2	6	6	55	35	79	99
Transport	4	-2	0	6	41	24	13	30
Transport Equipment	15	4	10	20	77	44	75	108

Sources: Elkon/Refinitiv, Allianz Research

Seven sectors out of our panel of 22 stand out with a +10-day increase in WCR, namely transport equipment, electronics, machinery equipment, computers/telecom, software/IT services, chemicals and pharmaceuticals. Most of them also belong to the list of global sectors that saw that largest increases in DSO or inventories, with transport equipment, machinery equipment, electronics and to a lesser extent chemicals topping both lists. Unsurprisingly, in this category we find the sectors more oriented to B2B/up-and-midstream and sectors more indirectly exposed to input and energy prices and/or the risk of supply-chain disruptions. Interestingly, these sectors had the highest share of firms with the largest inventories. At the global level, we find that 21% of companies have inventories exceeding 90 days in turnover. In four sectors, more than 35% of companies exceed this level: transport equipment (46%), textiles (39%), electronics (38%) and machinery equipment (36%).

Conversely, most sectors indirectly more oriented to B2C clients posted smaller increases in WCR, as evidenced by agrifood (+1 day compared to +9 days for the all-sector average), hotels/restaurants/tourism (+2), automotive (+3), retail (+4), textiles (+6) and other B2C services (+6). These sectors have the largest share of firms with the lowest DSO. On average, we find that 20% of companies are paid in less than 10 days. For retail, hotels/restaurants and other B2C services, the share rises to 27%, compared to the average of 8%. However, these sectors succeeded in mitigating the extension in DSO by increasing their DPO, even when they registered a noticeable jump in DSO (agrifood).

Figure 6: 2022 changes in WCR by sector, by quarter, in number of days of turnover (stable universe)

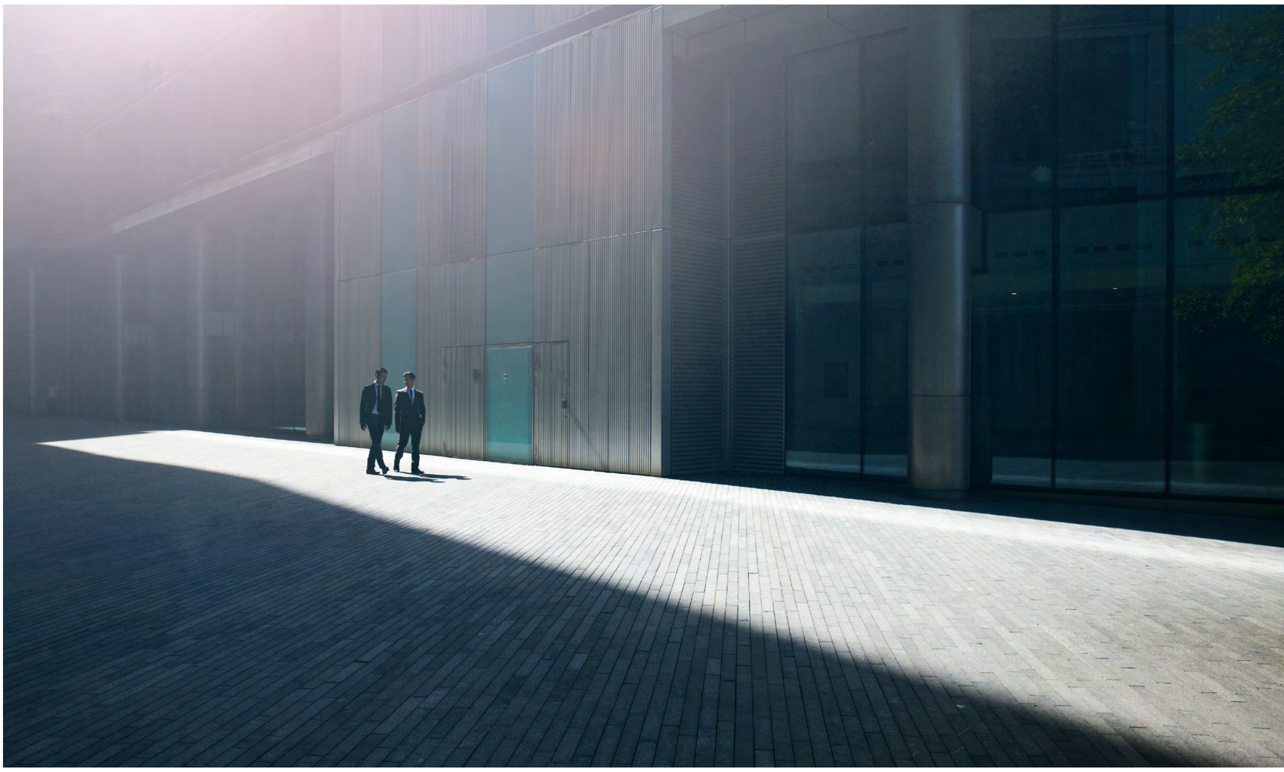


Sources: Eikon/Refinitiv, Allianz Research

Figure 7: 20Q4 2022 WCR and subcomponent, by number of days of turnover, in % of number of firms, by global sector

GLOBAL SECTORS	DSO						DI						WCR					
	<10 days	10-30 days	30-60 days	60-90 days	90-120 days	>120 days	<10 days	10-30 days	30-60 days	60-90 days	90-120 days	>120 days	<10 days	10-30 days	30-60 days	60-90 days	90-120 days	>120 days
Agrifood	5%	20%	46%	22%	7%	0%	5%	22%	36%	18%	7%	13%	8%	12%	31%	26%	16%	7%
Automotive	9%	15%	40%	28%	7%	1%	5%	12%	42%	23%	11%	8%	6%	11%	28%	28%	19%	8%
Chemicals	3%	8%	33%	31%	20%	6%	2%	10%	34%	29%	12%	13%	2%	6%	21%	28%	27%	16%
Commodities	2%	14%	45%	18%	10%	12%	43%	41%	4%	4%	0%	8%	29%	19%	43%	10%	0%	0%
Computers & Telecom	2%	9%	31%	39%	13%	7%	11%	12%	27%	24%	14%	13%	3%	4%	19%	33%	26%	15%
Construction	16%	19%	22%	18%	13%	11%	25%	19%	19%	10%	5%	21%	8%	12%	22%	23%	19%	16%
Electronics	1%	6%	31%	38%	16%	9%	2%	4%	26%	31%	17%	20%	0%	2%	16%	31%	31%	19%
Energy	3%	16%	53%	21%	6%	2%	32%	38%	20%	5%	2%	3%	23%	13%	31%	19%	10%	4%
Household Equipment	3%	13%	35%	35%	10%	5%	2%	12%	33%	22%	15%	16%	1%	7%	24%	32%	23%	14%
Machinery & Equipment	1%	4%	29%	35%	19%	13%	5%	6%	24%	29%	13%	23%	1%	2%	16%	30%	29%	22%
Metals	7%	16%	33%	21%	15%	8%	3%	10%	29%	30%	15%	13%	2%	9%	24%	27%	22%	16%
Paper	2%	8%	42%	33%	11%	4%	8%	21%	44%	21%	3%	4%	8%	6%	34%	30%	16%	5%
Pharmaceuticals	3%	7%	32%	37%	15%	7%	5%	15%	27%	22%	15%	16%	5%	3%	18%	31%	26%	17%
Retail	36%	34%	20%	6%	2%	1%	9%	20%	37%	19%	9%	5%	17%	32%	30%	15%	5%	2%
Services - Financials	18%	26%	26%	13%	8%	9%	46%	13%	18%	9%	5%	8%	13%	17%	23%	20%	16%	11%
Services - Non financial : HORECA+Tourism	25%	50%	18%	3%	3%	0%	68%	21%	5%	2%	2%	3%	52%	29%	11%	6%	1%	1%
Services - Non financial : other BtB	5%	13%	37%	30%	11%	4%	47%	21%	15%	7%	2%	8%	12%	8%	32%	24%	15%	9%
Services - Non financial : other BtC	19%	26%	38%	11%	2%	3%	58%	33%	6%	1%	1%	1%	31%	25%	27%	12%	3%	2%
Software & IT services	4%	10%	41%	30%	10%	5%	64%	18%	10%	3%	2%	3%	9%	5%	41%	28%	11%	6%
Textiles	1%	21%	41%	24%	7%	5%	5%	2%	23%	31%	25%	14%	1%	10%	26%	30%	21%	12%
Transport	8%	24%	48%	16%	3%	1%	61%	25%	8%	3%	1%	3%	26%	22%	36%	9%	5%	3%
Transport Equipment	3%	14%	21%	30%	18%	14%	6%	11%	14%	23%	26%	20%	1%	11%	15%	27%	24%	21%

Sources: Eikon/Refinitiv, Allianz Research

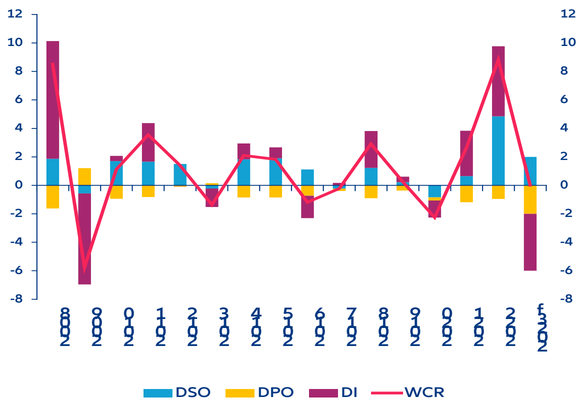


The USD30trn liquidity gap

Going forward, we expect global WCR to remain broadly stable. However, DSO and DPO should increase slightly (+5 combined) while DIO should decrease by about -4/-5. This would be in line with what we observed in previous economic downturns. Indeed, we anticipate that in a context of slowing economic activity and oversupply in some sectors, inventories will not grow in 2023, especially in manufacturing sectors such as household equipment and computer & telecom.

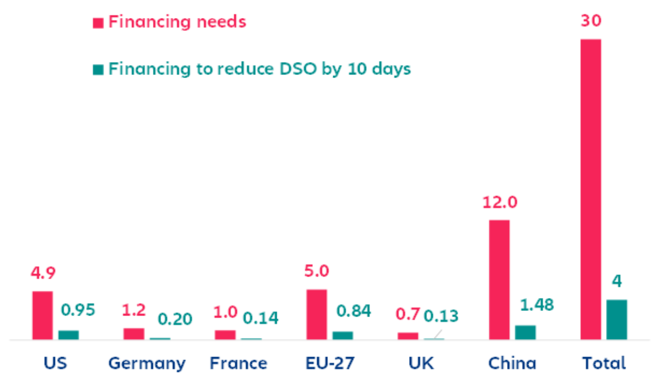
The tightening of financial conditions and rise in interest rates is likely to increase payment delays, which will increase both payables and receivables, though we expect some differences between sectors. Indeed, firms with large inventories and slowing demand might be tempted to lower their standards when choosing customers in order to get rid of their oversupply, while those in sectors with less oversupply might become more selective in a more uncertain environment.

Figure 8: Global WCR, annual change, by sub components, in number of days of turnover



Sources: Eikon/Refinitiv, Allianz Research

Figure 9: Estimate of the liquidity gap



Sources: Eikon/Refinitiv, Allianz Research

The USD30trn global liquidity gap is here to stay in 2023. There are 150mn small-to-medium sized enterprises around the world, accounting for about 90% of firms, 60% of jobs and over half of global GDP. We estimate that globally those SMEs generate over USD135trn of turnover. Considering an 80-day average payment delay, we find that firms need about USD30trn to finance this lack of liquidity. Indeed, most small businesses have limited cash reserves, usually no more than a few weeks' worth of revenues. Yet, they have substantial receivables.

We must underline that there are quite important differences at the country level: Thanks to lower DSO, the liquidity gap stands at "only" at USD730bn in the UK while it is as high as USD12trn in China because of its much larger DSO. In 2023, although we expect WCR to remain broadly stable, payment terms could slightly increase for many firms, putting pressure on their liquidity management and meaning that the global liquidity gap would remain roughly unchanged.

Methodological note

- Our computation of DSO, DPO, DIO and WCR is based on the financials of listed firms as available on Eikon/Refinitiv for 35 countries i.e. 45,000 firms representing over USD40trn of turnover in 2022.
- We focus on companies having released an extended and detailed version of their financials (i.e. operating/financial results + balance sheets) for each period of reference (quarter, year) in order to have a stable universe, with annual figures computing the succession of quarterly changes and dispersion data showing the last quarter (Q4 2022).
- All figures are as of 13 March 2023

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Such deviations may arise due to, without limitation, (i) changes of the general economic conditions and competitive situ-ation, particularly in the Allianz Group's core business and core markets, (ii) performance of financial markets (particularly market volatility, liquidity and credit events), (iii) frequency and severity of insured loss events, including from natural catastrophes, and the development of loss expenses, (iv) mortality and morbidity levels and trends, (v) per-sistency levels, (vi) particularly in the banking business, the extent of credit defaults, (vii) interest rate levels, (viii) currency exchange rates including the EUR/USD exchange rate, (ix) changes in laws and regulations, including tax regulations, (x) the impact of acquisitions, including related integration issues, and reorganization measures, and (xi) general compet-itive factors, in each case on a local, regional, national and/or global basis. Many of these factors

No duty to update

The company assumes no obligation to update any information or forward-looking statement contained herein, save for any information required to be disclosed by law. may be more likely to occur, or more pronounced, as a result of terrorist activities and their consequences.

Allianz Trade is the trademark used to designate a range of services provided by Euler Hermes