Economic Research

PAYMENT BEHAVIOR

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Sound inventory management pivotal to companies' working capital needs

EULER HERMES

A company of Allianz

EXECUTIVE SUMMARY

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- While Days Sales Outstanding (DSO) increased by 2 days globally in 2017 [1] because of accelerating growth worldwide, companies' Working Capital Requirement (WCR)[2] leveled off at 69 days, due to sound inventory management. Indeed, WCR strongly declined in China (-10 days), Brazil (-11) and Russia (-15), as well as in most of countries throughout Eastern Europe and Africa and the Middle-East. This drop mainly stems from a sharp reduction in stock levels (-10 days on average) reflecting adjustments in inventory value and more importantly progress in supply chain efficiencies.
- However, WCR rose in two out of three countries in 2017: the US (+5 days), Germany (+7), Japan (+8), France (+3) and emerging markets of Asia (China and Singapore excl.). The rise in WCR (+5 days on average) comes either from a loosening of payment behavior or from a hike in inventories reflecting favorable expectations in customer orders in a context of higher economic growth.
- WCR increased in half of the sectors in 2017, notably in Technology, Metals, Construction and Electronics bearing an already noticeable level, as well as in Transport and Telecom from a (much) lower level. Raw material costs explain the increased financing needs for their operating cycle. Sectors recording a drop in WCR are most often those already registering a significant level of WCR such as Aeronautics (-8 days to 129 days in 2017), Machinery (-2 to 109) and Pharmaceuticals (-8 to 96). On the other end of the spectrum, Services, Utilities and Retail have posted a WCR lower than the global average.

[1] See our report on worldwide DSO released in May 2018 (Payment delays up 2 days globally: Don't lower your guard too early!)

[2] The Working Capital Requirement (WCR) of a company is a financial metric whose components are accounts receivable (also known as DSO for Days Sales Outstanding), inventory (aka DIO for Days Inventory Outstanding) and account payable (aka DPO for Days Payable Outstanding). It is calculated according to the following formula: WCR=DSO+DIO-DPO, and it gives the amount of financial resources needed by a company to ensure its production cycle and its repayments of both debts and upcoming operational expenses. A rise (drop) in WCR comes either from a higher (lower) DSO, a higher (lower) DIO or from a lower (higher) DPO, with changes in DIO usually resulting from variations in inventory value or variation in supply chain management. A rise (drop) in WCR also means less (more) financial resources for other objectives such as new product development, geographical expansion, acquisitions, modernization or debt reduction.

Source: Pexels

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PAYMENT BEHAVIOR

SOUND INVENTORY MANAGEMENT PIVOTAL TO COMPANIES' WORKING CAPITAL NEEDS

- **At a global level, companies' Working Capital Requirement (WCR) levelled off at 69 days in 2017 due to sound inventory management**
- **WCR strongly declined in China, Brazil, Russia and across Eastern Europe and Africa and the Middle-East**
- **In the meantime, WCR rose in two out of three countries throughout advanced economies and Asian markets**
- **WCR increased in half of the sectors, notably upstream industrial sectors such as Technology, Metals and Electronics**

Two different dynamics behind the stability of WCR at a global level

Global WCR has leveled off at 69 days on average for the fifth consecutive year in 2017 despite the lengthening of customer payment terms with DSO on the rise by +2 days (as published in our latest report on payment behavior).

Based on our sample of 25,000 listed companies across 20 sectors and 36 countries, this stability in global WCR stems from a relaxation in delays of payment to suppliers and from a sounder inventory management: Days Payable Outstanding (DPO) increased by +1 day on average in 2017 while Days Inventory Outstanding (or DIO) dropped by -1 day over the same period. This overall picture might seem surprising in the context of strong economic growth worldwide, which usually comes up with a rise in inventories; it is notably the case across manufacturing activities where (i) production lines always require sufficient feedstock supply to churn out finished goods and (ii) sales teams need enough stocks to meet the rise in demand and avoid missed sales.

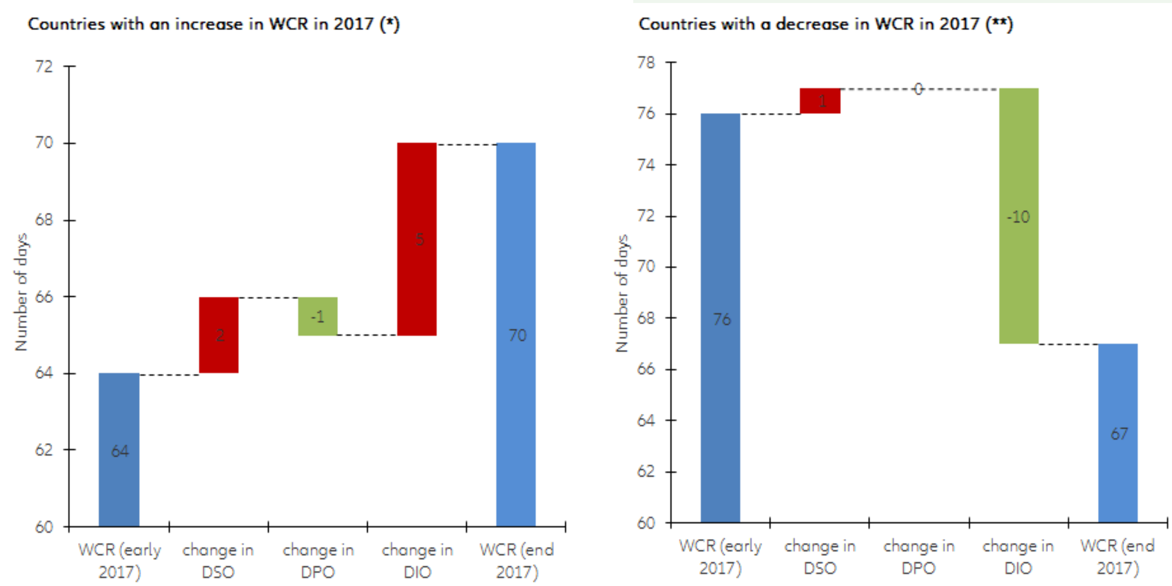
As shown in chart 1, this global picture conceals two opposite dynamics among countries: (i) on one hand, countries facing an enlargement in WCR due to a rise in inventories, mainly advanced economies; (ii) on the other hand, countries reducing their WCR thanks to harsh inventory reduction, especially among emerging markets.

A widespread rise in WCR throughout advanced economies and Asian markets

WCR increased in two out of three countries worldwide in 2017, across North America, Western Europe and in most of Asia's emerging markets. Almost all advanced economies faced a rise in WCR, notably the US (+5 days), Germany (+7), Japan (+8) and France (+3). The picture is the same in Asia with a rising WCR in seven out of nine countries. The four exceptions across these three regions are countries where the decline in WCR resulted in a sharp drop in inventories last year: Italy (-14 days in DIO), Belgium (-13), China (-11) and Singapore (-5).

Source: Pexels

Chart 1 Changes in WCR and sub-components



(*) List of countries: US, Canada, Chile, Germany, France, UK, the Netherlands, Sweden, Norway, Austria, Denmark, Finland, Greece, Poland, Japan, Australia, South Korea, Taiwan, Hong-Kong, New-Zealand
(**) List of countries: Brazil, Italy, Switzerland, Belgium, Russia, Turkey, Romania, Bulgaria, South Africa, Morocco, Saudi Arabia, China, Singapore.
Greece and India are not included in these charts (unchanged WCR)

Sources: Bloomberg, Euler Hermes, Allianz Research

For this first group of countries, the rise in WCR comes partly from a relaxing in payment behavior, often both on the DSO and DPO sides but with a larger lengthening in DSO than in DPO; it is in particular the case of Southern Europe countries (Spain, Greece, Portugal and France). It comes more significantly from a surge in inventories (+5 days in average), notably in Scandinavian countries, Japan and South Korea.

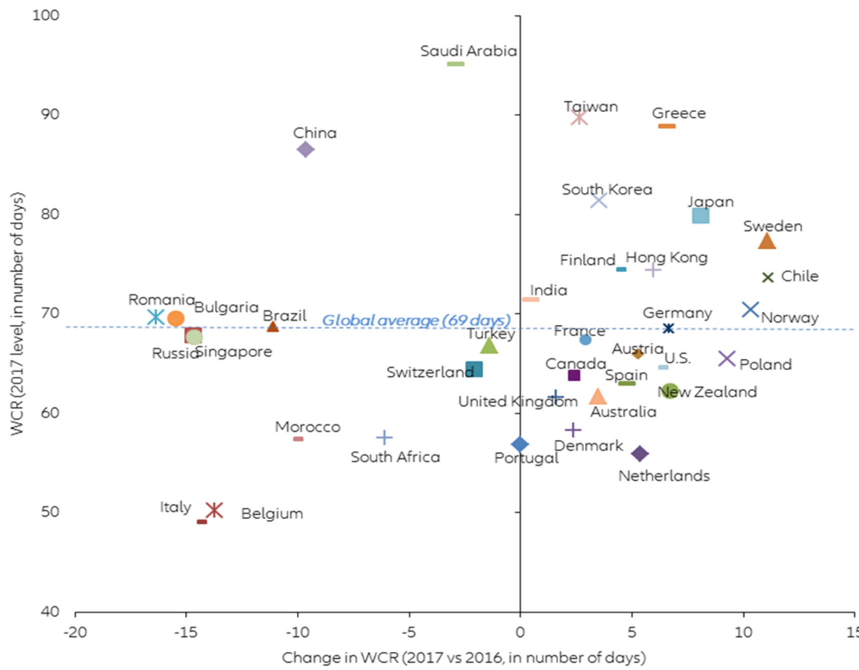
As shown in chart 3, one-third of our panel stands out with a rise in both DSO and WCR in 2017. In other words, these fifteen countries have to cope with a higher risk of non-payment from their clients and with higher needs of financing for their operating cycle compared to the previous year. Among them, we have Japan, Taiwan, India, France, Spain and Greece all registering higher than global average DSO and WCR in 2017.

A drop in WCR in 3 out of 4 countries across Eastern Europe and Middle-East

As opposed to most of the advanced economies, almost all countries across Eastern Europe, Africa/Middle East and Latin America registered a fall in their WCR in 2017. This drop does not stem from payment behaviors, since changes in DSO were offset by opposite changes in DPO in most cases. The critical factor has been a decline in inventories (by -10 days on average over 2017 including the few advanced economies in this situation, i.e. Italy, Belgium and Switzerland).

This drop in inventories often comes from an ongoing optimization of stock rotation i.e. greater supply chain efficiencies. It is particularly the case (i) among emerging countries where companies are catching up with their western competitors in the management of the manufacturing cycle and (ii) throughout East European countries where WCR decreased by -8 days in 2017 to 68 days due to a fall in DIO (-8 days) while there was at the same time an increase in DSO

Chart 2 WCR by country (2017 level and change versus 2016)



Sources: Bloomberg, Euler Hermes, Allianz Research

Chart 3 Change in WCR and DSO by country in 2017

Sources: Bloomberg, Euler Hermes, Allianz Research

(+1 day). It may also stem from adjustments in inventory value, notably in countries more sensitive to changes in commodity prices. As a result of this sound reduction in inventory value, companies across Africa and the Middle East registered a noticeable drop in WCR (-6 days in 2017) to 70 days on a regional average, despite the rise in DSO and the shortening of DPO.

It is also worth mentioning China and Turkey as shown in chart 3. Both posted a rise in DSO in 2017 (+3 days each to respectively 92 and 83 days) but this was offset it by slightly higher DPO and above all by lower DIO.

More than one out of two sectors has coped with a hike in WCR

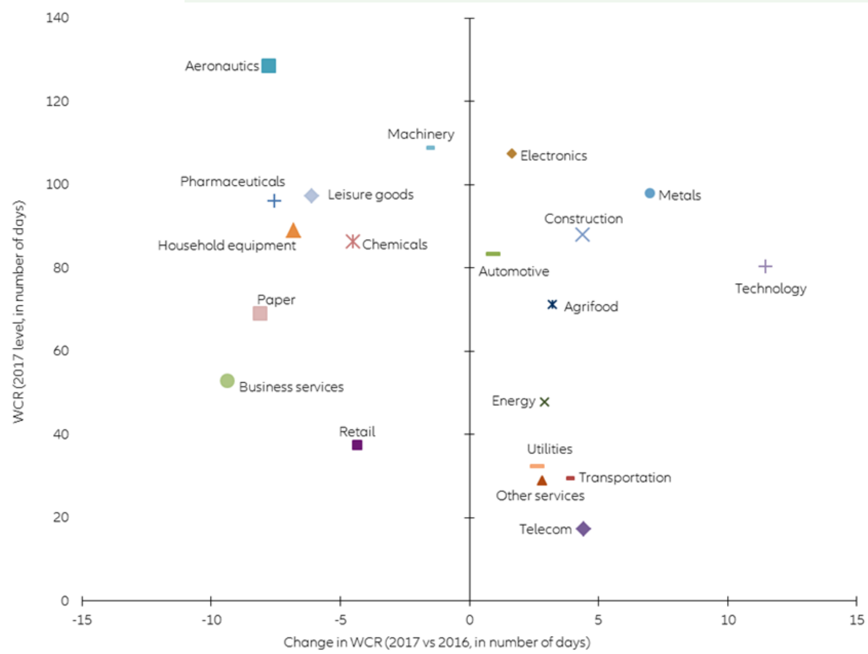
WCR increased in slightly more than one out of two sectors worldwide in 2017. Four sectors particularly stand out since they were already registering high-level WCR compared to global average two years ago: Technology (+11 days in 2017 to 80 days), Metals (respectively +7 to 98), Construction (+4 to 88) and Electronics (+2 to 107).

As shown in chart 5 (page 8), these four sectors belong to the group of sectors registering a rise both in DSO and WCR in 2017, meaning an increasing risk of non-payment from their clients as well as higher financing requirements for their operating cycle compared to the previous year. Those sectors have been more sensitive to inflation related to raw material costs and to longer IT outsourcing contracts especially for Technology while benefiting from growing demand due in particular to the digitalization throughout the manufacturing processes in Electronics. This cluster of sectors also encompasses Transportation (+4 days in WCR), Telecom (+4), Energy (+3) and Utilities (+3) but their respective WCR remain at a low level compared to other sectors.

On the other end of the spectrum, five sectors saw their WCR fall noticeably last year: Services (-9 days), Aeronautics (-8), Pharmaceuticals (-8), Paper (-8) and Household goods (-7 days). Some of them remain burdened with high WCR, especially aeronautics (129 days in 2017), but they succeeded to lower their WCR significantly last year most often thanks to better inventories management. Companies in the aeronautics sector have cleared stockpiles of outdated aircraft programs. Paper and household goods producers have committed to ramping up their inventory rotation. This also applies to Pharmaceuticals which stands out as the unique sector that registered a decrease in both DSO and WCR in 2017.

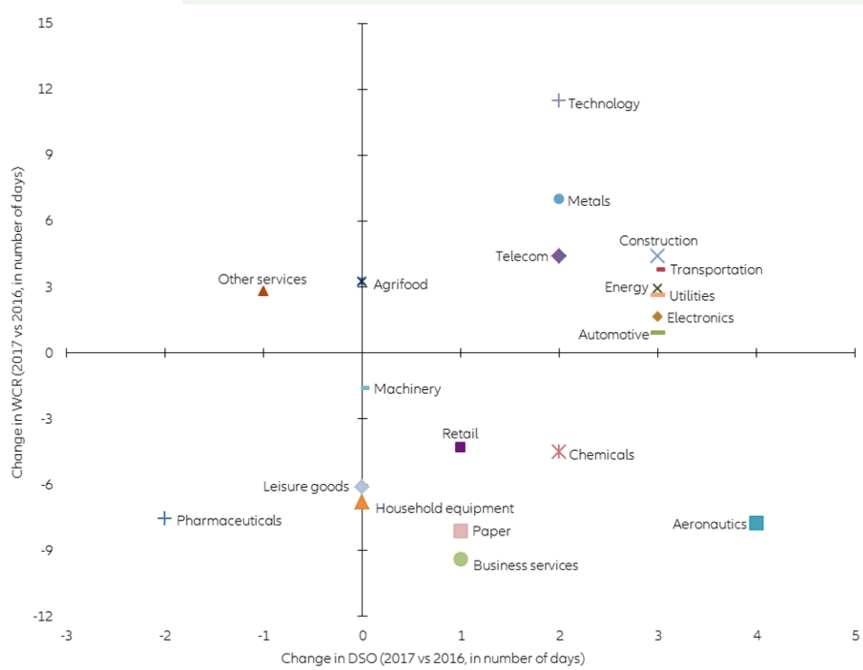
Marc Livinec

Chart 4 WCR by sector (2017 level and change versus 2016)



Sources: Bloomberg, Euler Hermes, Allianz Research

Chart 5 Change in WCR and DSO by sector in 2017



Sources: Bloomberg, Euler Hermes, Allianz Research

Chart 6 Global WCR Heat Map 2017

	Telecom	Other services	Transport	Utilities	Retail	Oil & gas	Business services	Paper	Food	Technology	Auto	Chemicals	Construction	Household goods	Pharma	Personnal & recreational goods	Metals	Electronics	Machinery & eq	Aero	**Country average**
Italy	33	34	16	34	3	-11	24	-	49	94	-14	73	67	74	80	79	-	80	61	-	49
Belgium	-11	10	20	49	49	56	88	-	54	101	-	42	20	-	52	103	107	103	100	-86	50
Netherlands	-20	66	67	-	21	24	89	-	139	86	-	39	58	55	-	9	0	81	56	-	56
Portugal	90	-12	28	-21	36	-	69	49	73	157	118	-	83	37	-	-	-	-	-	-	57
Morocco	-	15	-	3	24	-29	42	133	31	142	-	120	39	-	96	-	56	157	-	-	57
South Africa	20	17	2	-	31	45	76	50	61	63	63	82	79	94	78	117	67	73	72	-	58
Denmark	-25	24	17	39	40	39	33	-	87	61	-	13	85	101	85	69	-	83	102	-	58
United Kingdom	16	29	21	52	22	35	52	52	59	77	65	89	51	40	86	73	80	83	107	117	62
Australia	23	35	23	46	56	37	38	57	72	59	44	98	71	108	54	89	76	58	81	181	62
Austria	19	63	24	8	-	65	-	-	87	-	99	120	68	-	-	80	-	13	103	-	62
Spain	-3	21	74	28	16	87	45	60	59	112	51	-41	96	47	107	108	27	-	87	-	63
Canada	36	24	57	26	37	73	64	53	46	58	40	50	66	78	93	108	57	85	113	144	64
Switzerland	-	20	6	53	40	-	34	40	79	40	80	101	101	101	73	46	60	113	102	-	64
New Zealand	20	57	22	21	43	33	15	-	86	89	-	-	93	108	96	58	95	151	107	-	65
Poland	14	29	17	23	38	38	43	89	65	59	41	74	68	84	72	86	83	101	112	150	65
U.S.	17	32	26	29	41	43	45	68	62	70	62	78	80	81	72	81	101	84	89	132	66
Turkey	68	41	16	-8	-3	36	37	89	59	105	105	91	99	84	107	87	30	164	112	-	67
France	-20	27	24	26	19	58	83	61	45	85	51	49	53	83	52	71	58	81	124	154	67
Singapore	17	11	28	45	55	42	44	80	80	66	88	114	70	100	32	120	125	90	110	92	68
Russia	-	16	19	48	15	47	23	72	54	69	44	60	53	100	131	109	119	88	107	116	68
Germany	19	27	34	42	29	46	49	-4	75	77	88	69	67	72	81	97	94	92	105	87	69
Brazil	27	3	12	30	49	45	53	87	60	50	36	66	125	113	121	125	142	141	72	55	69
Bulgaria	-	-15	-6	35	51	46	-15	56	69	136	63	51	92	144	104	95	184	87	102	-	70
Romania	-	11	37	59	25	83	28	25	99	-	47	48	70	96	183	91	62	73	111	131	70
Norway	-6	8	30	49	-13	72	108	-	67	64	154	86	100	102	49	38	104	89	113	-	70
India	-12	35	30	43	55	46	74	56	55	91	66	82	80	81	87	87	87	102	100	178	71
Chile	-7	7	58	43	54	6	31	44	64	-	141	106	92	116	-	126	112	-	148	-	74
Hong Kong	4	34	45	34	51	59	49	80	80	73	75	87	83	90	145	100	93	98	109	86	74
Finland	37	26	23	37	32	137	54	66	98	103	138	100	105	62	41	132	-	68	95	-	75
Sweden	14	36	14	-12	46	12	73	67	81	84	90	99	110	112	86	79	63	95	88	182	77
Japan	51	31	35	39	40	37	64	88	76	87	74	103	104	90	125	107	108	111	117	153	80
South Korea	37	41	34	37	55	51	69	95	70	74	82	86	85	82	130	102	124	92	108	125	81
China	34	19	19	10	21	68	33	101	57	94	95	97	96	82	119	84	106	135	125	194	86
Greece	-	47	8	48	52	30	59	-	81	79	-	39	95	115	101	106	282	109	143	-	89
Taiwan	38	22	35	45	47	54	83	62	96	67	96	101	76	86	116	101	103	110	118	231	90
Saudi Arabia	82	49	78	18	57	-41	-	89	29	-	-	96	145	192	-	255	82	167	113	-	95
Sector Average	17	29	29	32	37	48	53	69	71	80	83	86	88	89	96	97	98	107	109	129	69

Reading notes: A greener color indicates a lower average country or sector WCR. Conversely, a more red color indicates a lengthening country or sector WCR.

Sources Bloomberg, Euler Hermes, Allianz Research

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