

9th drupa Global Trends Report 2023 Executive Summary

Welcome to the 9th drupa Global Trends Report Executive Summary. The report series is unique in tracking key economic and market developments across the print industry globally, regionally and within markets. We are pleased to report confidence returning to the print industry, getting back to sustainable growth and development, and looking forward to drupa 2024.

Over 600 printers and suppliers contributed and we must thank them. The participating panel members get free access to crucial data to help them best assess how to invest and develop their companies in what is as always, a challenging market and broader socio-economic environment.

We circulated two separate surveys to printers and suppliers in May and June this year, which share many questions, but ensure that their differing interests are addressed. We are careful to be transparent in the report, not drilling down into very small data sets and spelling out where we have used marginal data sets, so readers can decide for themselves how useful the findings are.

Confidence levels were found to be growing across all markets and almost all regions, despite challenging economic headwinds. It is clear that the old saying, "Adapt or die", applies as printer and suppliers alike seek new ways to grow and thrive.

Messe Düsseldorf, in its role as drupa organiser, must thank Printfuture (UK) and Wissler & Partner (Switzerland) for conducting and authoring this report series. We are confident you will find the resulting report insightful. We welcome your feedback and invite you to send us an email at drupa-expert-panel@drupa.de.

The drupa team
November 2023

9th drupa Global Trends Report 2023 - Executive Summary

Last year's report, the first since the Covid pandemic, was remarkably positive as the ever-resilient print industry bounced back, reporting a more positive condition than in 2019 i.e. before

COVID19. The results this year have maintained that momentum, with a further improvement in sentiment for 2023 and very positive expectations for 2024.

drupa Printer Barometer 2023 economic confidence by region

% net balance positive v negative

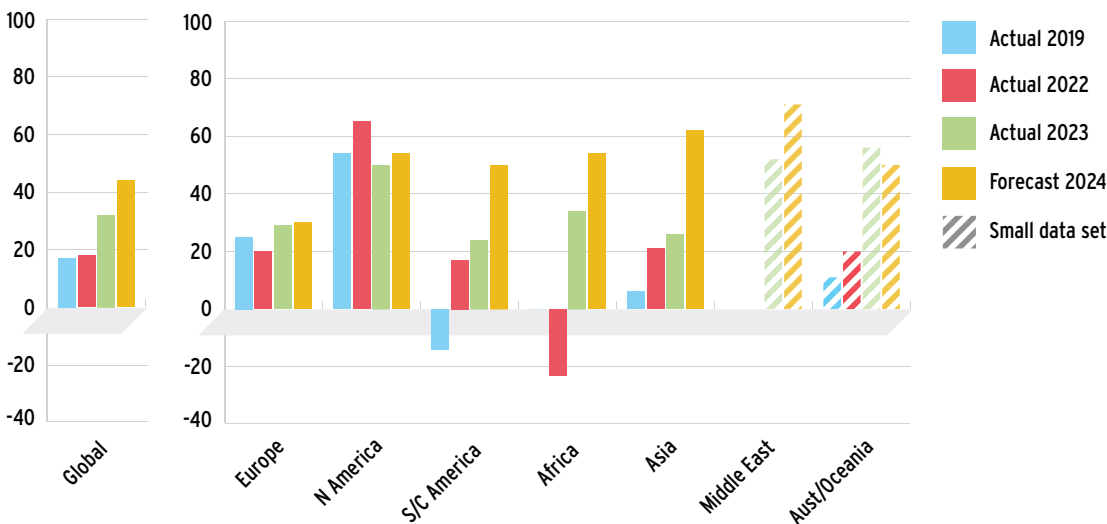


Chart A How do you rate your company's current economic situation? What are your expectations for the next 12 months?

Globally in 2023, 44% stated their company's current economic situation was 'good', and 12% described it as 'poor' while the remaining 44% described it as 'satisfactory'. The net positive balance being +32% i.e. 44% minus 12%, is the overall result shown as the green column in the chart, 14% better than in 2022. It is this net positive or negative balance that is shown in many of the charts that follow.

It is not all good news. Germany was downbeat at +12%, the same as 2022. Yet the Rest of Europe was +34%. North American (N. America) sentiment softened to +50% from the peak last year. However, South/Central America (S/C. America) +24%, Africa +34%, Middle East +52% (small data set) and Australia/Oceania

+56% (small data set) all recovered well from previous lows. Looking ahead, all regions, except Australia/Oceania, expect better performance in 2024, although Germany at just +4% is far more cautious than most.

The detailed breakdown of printers and suppliers by market and region is given in the full report's Appendix. Where data sets are too small to use separately, they are not shown, but are included in the global data. Where small data sets have been shown, attention is drawn to this limitation in both the text and the charts¹.

1. Column gaps in any chart indicate a nil result. Banded data columns or dotted data lines indicate <20 in the data set.

Looking at markets, there is a striking recovery in confidence amongst Commercial and Publishing printers across the globe, while Packaging continues in its confident fashion.

The unexplained dip in confidence for Functional print in 2022 is reversed - probably a result of the small data set.

drupa Printer Barometer 2023 economic confidence by market

% net balance positive v negative

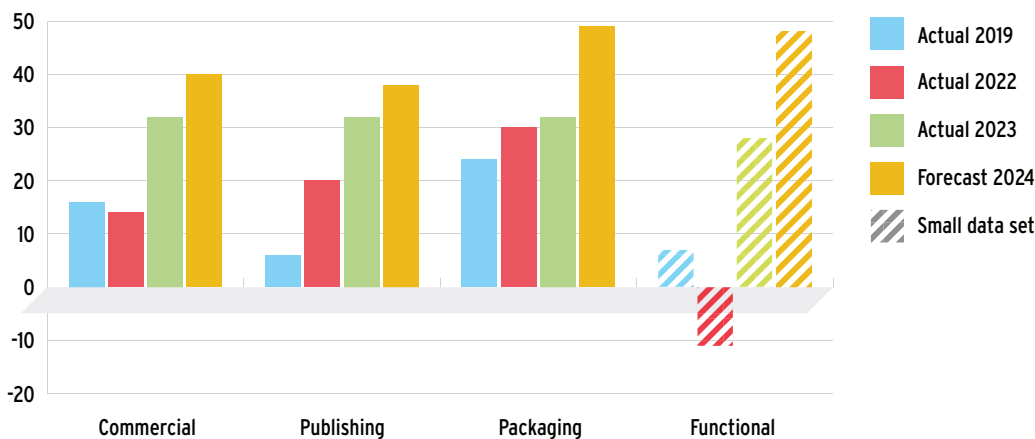


Chart B How do you rate your company's current economic situation? What are your expectations for the next 12 months?

Suppliers were a little more cautious this year than last at 32%, down 2%. N. America, S/C. America and Asia were up, with Europe down 5%. All markets were fairly flat this year, but all showed great confidence for next year, perhaps in part because of drupa 2024!

For the second year running, printers raised prices globally; this after seven years of falling prices. Revenues grew at the fastest rate by far and margins decreased at the slowest rate ever recorded.

The pattern was not universal, with Europe and S/C. America reporting a more mixed situation. Suppliers reported a similar upbeat assessment.

Commercial pricing is strong, net balance average +57% for the last two years compared with an average of -21% 2013-2017. Publishing is also an average +57% last two years; average -18% 2013-2017. These figures suggest the beginnings of better times for both market sectors. The stronger financial performance for the industry as a whole is welcome, as long as it does not crumble under wider inflationary pressures.

Global printer financial performance over time

% net balance positive v negative

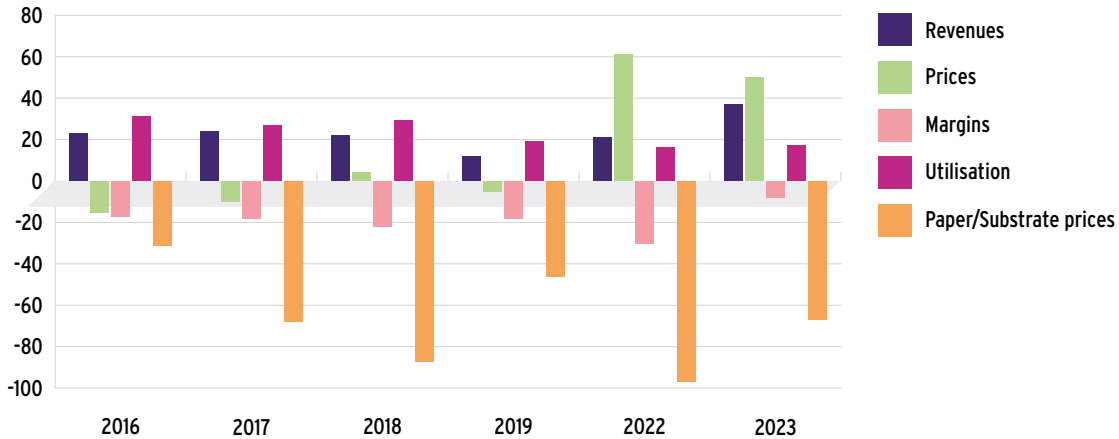


Chart C How have your company's revenues/prices/margins/utilisation/substrate prices changed over the last 12 months?

Every year we ask printers to assess the net print volume by print technology. Chart D shows this year's results for the main print processes in total and by main market sectors. The resilience of sheetfed offset is remarkable with net growth in

all markets, even commercial after a number of years of reductions. Flexo grows fast in packaging and Digital toner cutsheet colour is far ahead of all other digital processes in all markets.

Print volume by technology 2023

% net balance positive v negative

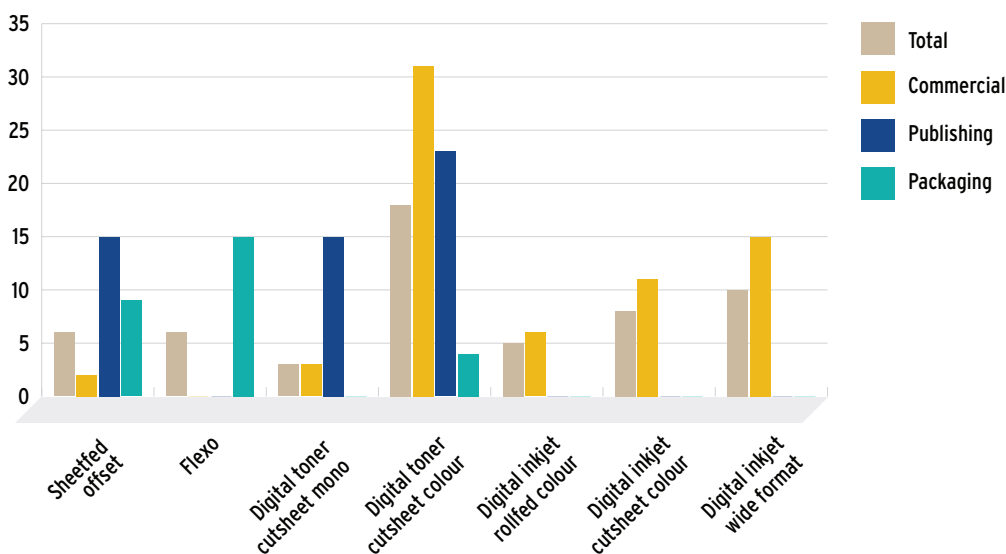


Chart D How would you assess your printing volume in the following technologies over the last 12 months?

Globally the digital adoption rate - printers claiming more than 25% of turnover in digital - is growing from 26% in 2014 to 29% in 2023. At first sight this is only a modest growth. However, according to various industry sources volumes have grown significantly since 2014, even though the digital adoption rate appears to be slowing down.

25% of the total printer panel reported having web-to-print installations in 2014. The figure for 2023 is still 25%. Some regions have less e-commerce for cultural, technical and other reasons but the figure is flat almost everywhere. Those operating web-to-print enjoyed a surge in demand from that source over the Covid period, but demand has fallen back this year almost to pre-Covid levels. The exception is Packaging where the major growth of 2022 has been largely maintained.

Employment numbers amongst printers are flat in the developed economies, but show significant growth elsewhere.

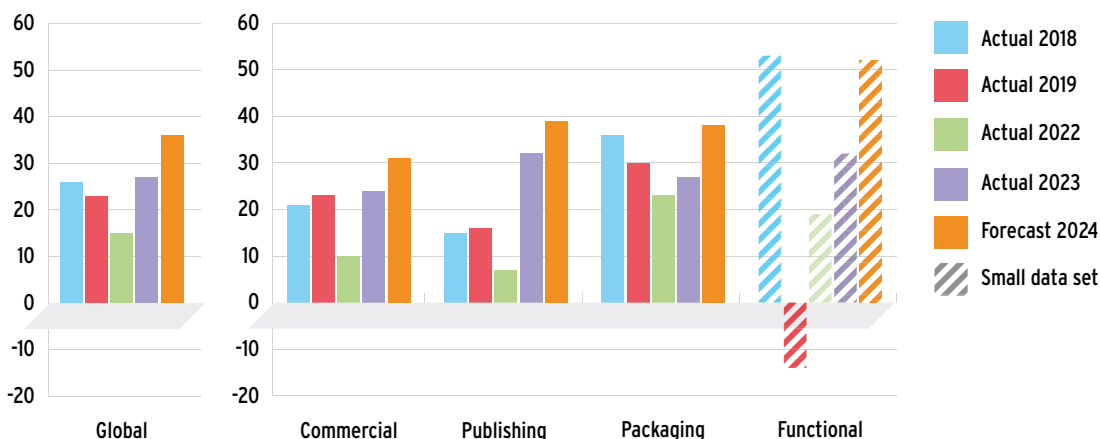
Labour shortages are reported by both printers 47% and suppliers 39%. Conventional press operators and finishing staff are hardest to recruit for printers and manufacturing and technical support staff amongst suppliers.

Supply chain issues have loomed large for both Printers 63% and Suppliers 73%, although all expect issues to be less next year.

Capital expenditure fell back during the pandemic and there was an inevitable lag last year but demand picked up strongly in 2023 with even higher forecasts for next year, drupa 2024! There was the expected sustained demand from Packaging printers, and an encouraging surge from Commercial and Publishing printers, while Functional printers returned to levels not seen since 2018. As usual, print technology and finishing equipment are the strongest targets by far.

Printer CapEx 2023 Global and by market

% net balance positive v negative



**Chart E How has capital investment changed over the last 12 months?
Over the next 12 months how will your company's capital investment...?**

Sheetfed offset remains first choice for print technology globally and has been since the first Trends report in 2014. Digital presses take the next two places for popularity, as shown on the

table below. There is more variety when analysing the market sectors, signalling the amazing range of products and market conditions that together dictate best investment choices.

2023 Print technology investment targets - global and by market				
	Global	Commercial	Publishing	Packaging
1st Choice	Sheetfed offset 29%	Digital inkjet wide format 33%	1st Equal at 32% Sheetfed Offset & Digital toner cut-sheet colour	1st equal at 35% Sheetfed offset & Flexo
2nd Choice	Digital toner cut-sheet colour 20%	Digital toner cut-sheet colour 31%		
3rd Choice	Digital inkjet wide format 19%	Sheetfed offset & Digital inkjet cut-sheet colour 24%	Digital inkjet cut-sheet colour 16%	Hybrid Off-set/flexo/digital 21%

Table 1: 2023 Print technology investment targets - global and by market

Capital expenditure amongst suppliers was relatively flat at just +4% net balance. However, all were bullish for 2024 at +24% across all markets, particularly for the Functional market. Building sales channels, raising efficiencies and developing new services are the preferred targets.

Both printers and suppliers have increasingly relied on diversification to create growth, though the rate of change is slower as trading has returned to more normal patterns post-Covid.

Socio-economic issues loom as large as ever over all regions. The risk of economic recession is the top concern 47%, knocking the impact of pandemics into second place 41%. However, beyond the top two issues there were major variations across almost every region. For example, S/C. American printers were concerned about Political instability 52%, African printers highlighted currency issues 51%, Australian printers pointed to environmental issues 33%, Asian printers commented on trade wars 23% and N. American printers worried about standards of living 32%. Opinion is divided between those that

think market forces are more important 43% and those who think socio-economic forces 46%.

We returned to market specific questions for the first time since 2019. For commercial markets, the key takeaway is the advantages of diversification in both markets served and services offered. The proportion of publishing printers in the sample has halved since 2014 (from 30% of the total 2014 to 15% in 2023). And the mix of markets they serve has also changed, with fewer in the newspaper, magazine and catalogue markets but more offering varying book printing options. Packaging printers report increasing demand for added value packaging e.g. interactive print. The search for more environmental alternatives to plastic packaging is a major focus for many, particularly for Flexible printers of course. While our sample of Functional printers is small, the shift to inkjet print from screen and toner is clear.

In conclusion, the majority of printers and suppliers across the globe have increasing confidence for the future, despite the many market and socio-economic risks and challenges. Prices and revenues are up strongly and the squeeze on margins is less than ever. The question is whether the industry will remain as positive in the face of inflationary pressures.

Perhaps the most encouraging news is the clear improvement in confidence amongst Commercial and Publishing printers, who appear to have adapted to the impact of the digital revolution and can plan forward with greater confidence. Meanwhile Packaging printers enjoy sustained demand and Functional printers continue to enjoy an astonishing and ever-growing variety of products and markets served.

Capital expenditure has recovered to pre-Covid levels and 2024 is forecast to be a bumper year for investment - good for drupa 2024!

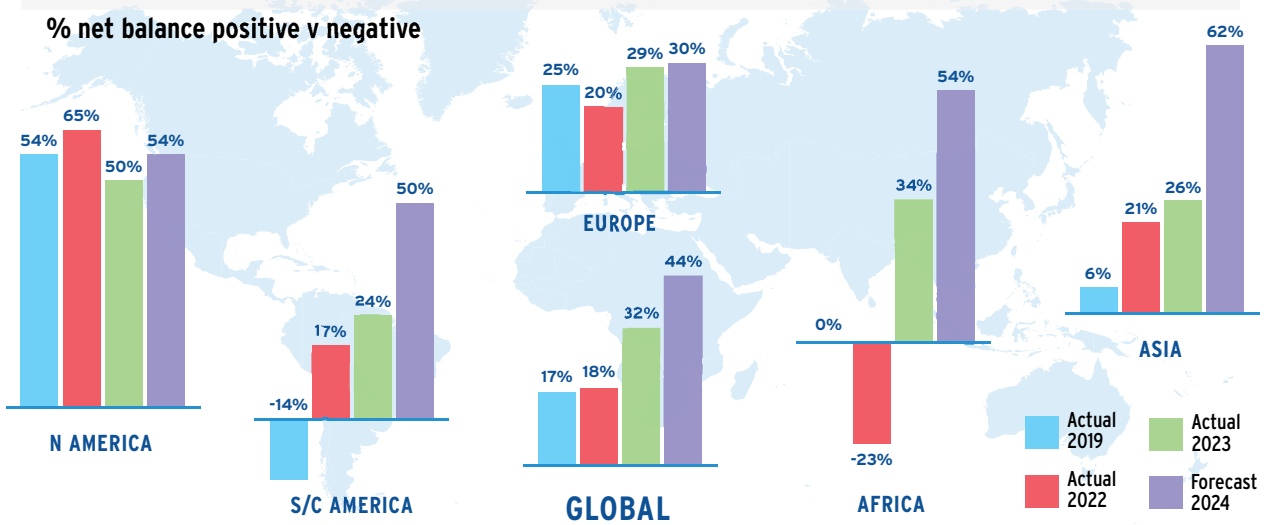
Finally let us quote one printer's confidence in the industry's future.

"We notice that people although prefer to use digital tools, they invest on print products that offer a distinct quality (i.e. fine printing, good binding etc.). This type of printing sector will not extinguish as it offers a sense of uniqueness, a product that you want to feel/touch/keep."

Commercial printer, Greece.

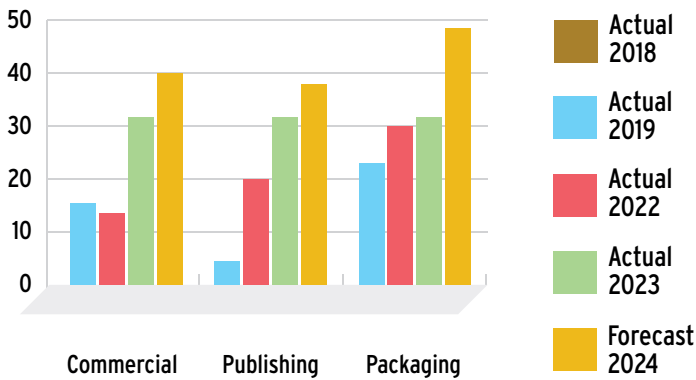
drupa Printer Barometer economic confidence 2023 Global and by region

% net balance positive v negative



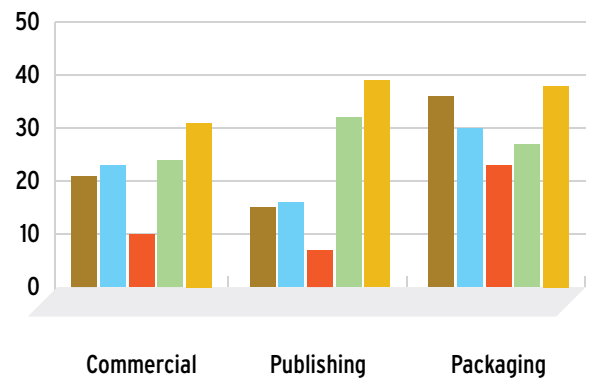
drupa Printer Barometer 2023 economic confidence by market

% net balance positive v negative

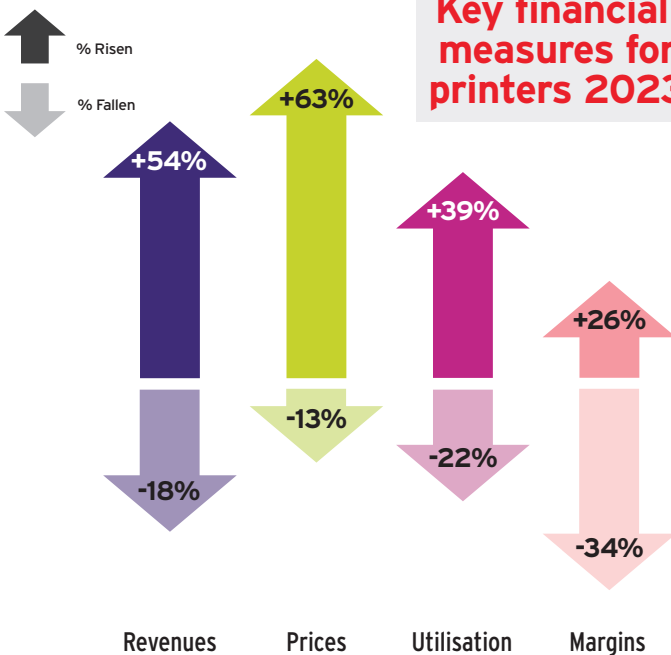


Printer Cap Ex plans 2023 by market

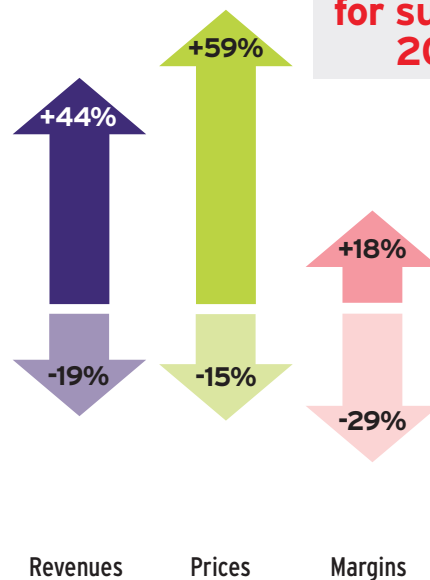
% net balance positive v negative



Key financial measures for printers 2023

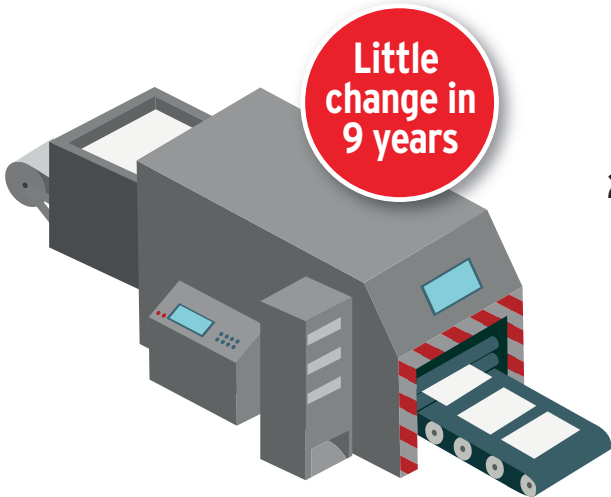
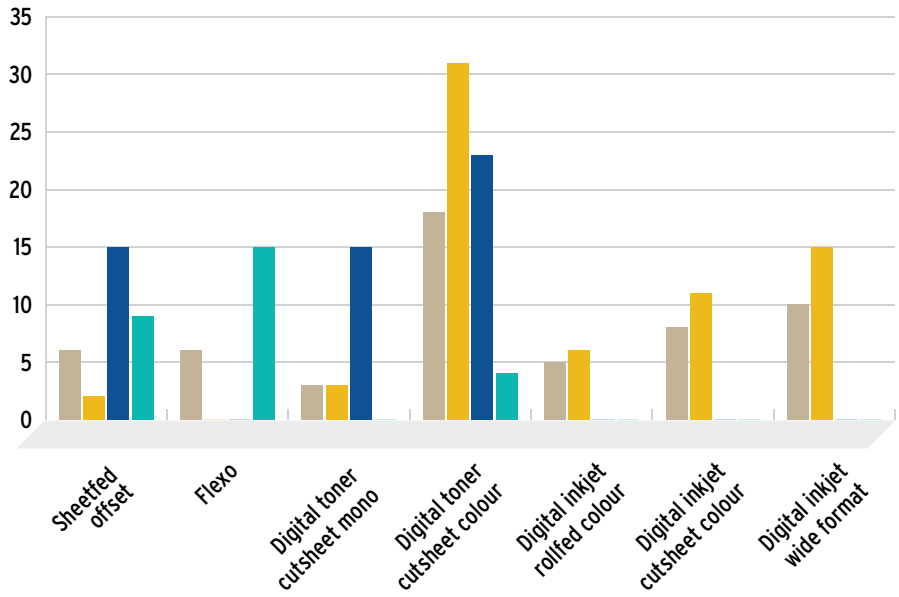
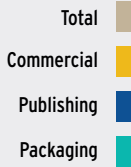


Key financial measures for suppliers 2023



Changes in print volume by technology 2023

% net balance positive v negative



Digital print as % of turnover

26% had more than 25% of turnover digital in 2014

29% have more than 25% of turnover digital in 2023

% Web-to-Print installations

25% in 2014
25% in 2023

Top two print technology investment plans by market 2023

Global total

Sheetfed offset **29%**

Digital toner cutsheet colour **20%**



Publishing

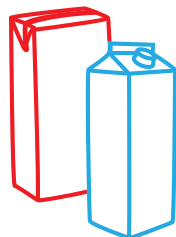
32% Sheetfed offset

32% Digital toner cutsheet colour

Packaging

Flexo **35%**

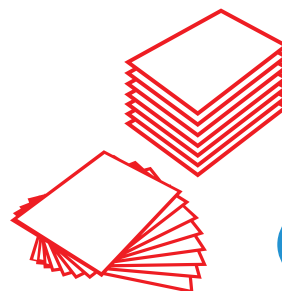
Sheetfed offset **35%**



Commercial

33% Digital inkjet wide format

31% Digital toner cutsheet colour



The Global Economic Outlook 2023 - Living Through Turbulent Times

We need to remind ourselves how different the first three years of this decade have been in comparison with the 2010s. The world endured a once-in-a-century pandemic, which governments countered by shutting down whole areas of the global economy and provided unprecedented monetary and fiscal stimulus. These actions combined with the cost of restarting the global economy and restoring supply chains, fuelled the biggest and most sustained surge in global inflation in over 40 years. Central banks had to respond with the most aggressive global interest rate rises in decades. The consequences included a banking crisis, tighter credit conditions, and widespread forecasts of a recession this year or next.

These events will likely reverberate around the global economy for years to come. More frequent and more volatile business cycles are expected and governments will have less scope to administer regular doses of quantitative easing. It is likely we are entering an era of constraints on supply and economic labour market shifts, which will become

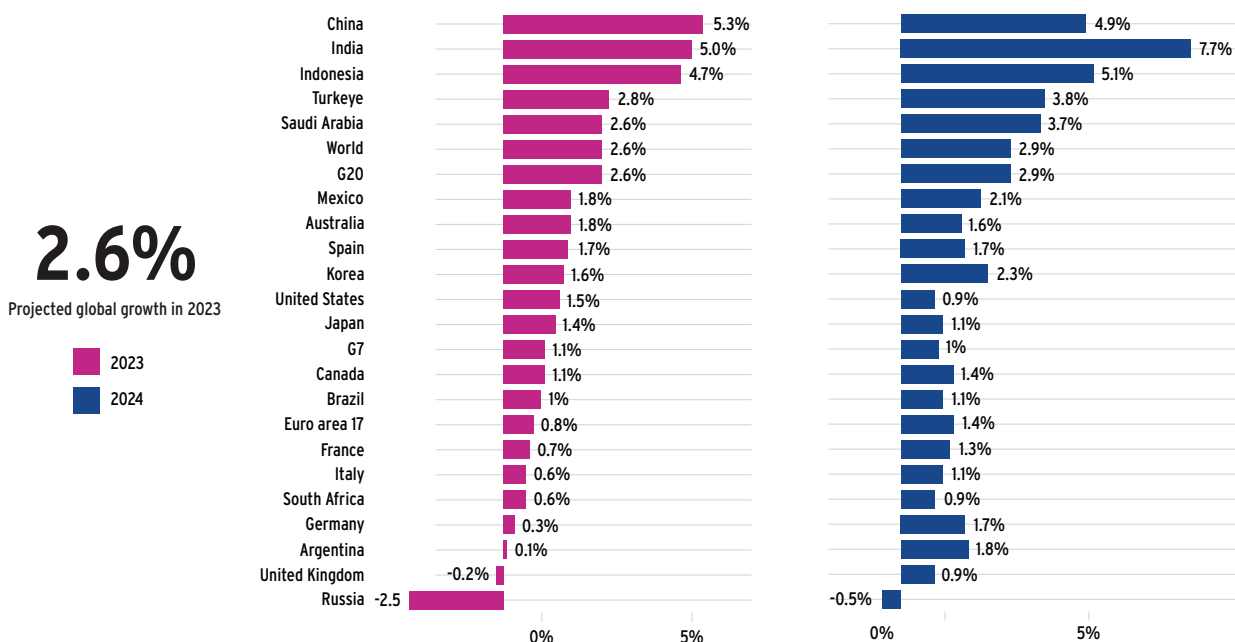
regular sources of economic fluctuations and risk management.

The economic aftershocks

The world economy has been severely weakened with marginal economic growth, stubborn inflation and rising interest rates in the major developed economies. This is clouding the near-term economic outlook and creating uncertainty. Having to deal with the legacy of COVID-19, the protracted war in Ukraine and the accelerating impact of climate change, have all impacted growth prospects. Global growth has slowed from 6.0% in 2021 to 3.2% in 2022 and 2.7% in 2023 but is projected to reach 2.9% in 2024. This is the weakest growth profile since 2001 except for the global financial crisis and the acute phase of the COVID-19 pandemic. Global growth is projected to remain at a below-trend rate in 2023-24, with inflation falling gradually as the tightening of monetary policy takes effect. Growth has slowed to the extent that the global economy is perilously close to falling into recession.

Real GDP growth projections for 2023 and 2024

Year-over-year, %



Source: OECD Economic Outlook. Interim Report March 2023

Major economies are undergoing a period of pronounced weakness. Globally, public debt as a share of GDP continues to be notably higher than before the pandemic, although the gap has narrowed in the last two years, largely due to a

withdrawal of fiscal support and some growth recovery. The lowering price of commodities and the full reopening of China are cause for some optimism but the growth benefits will be limited to the near-term future.

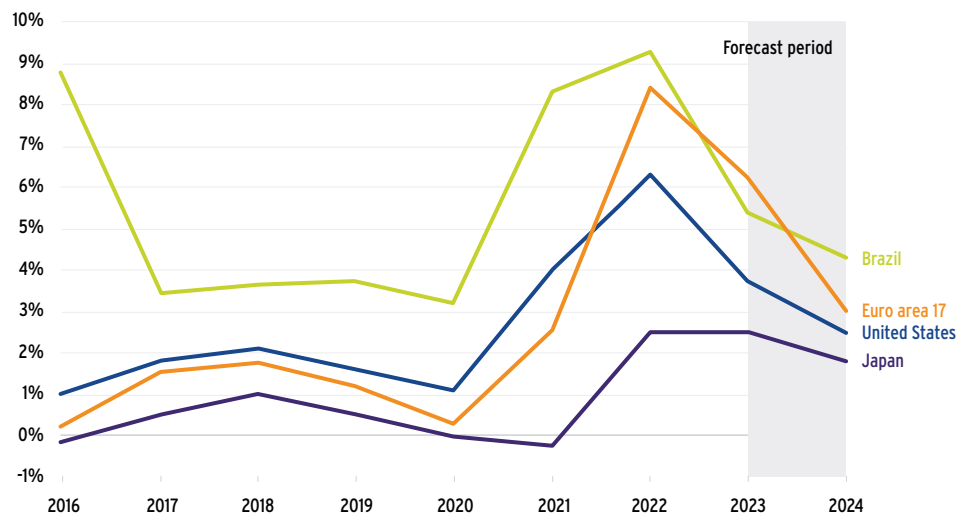
Managing trade-offs and fighting Inflation

Headline inflation

Year-over-year, %

5.9%

Projected inflation for the G20 in 2023



Source: OECD Economic Outlook. Interim Report March 2023

Policymakers around the world are facing increasingly difficult trade-offs between fighting inflation, preserving financial stability and supporting inclusive and sustainable economic recoveries, against the backdrop of a raft of uncertainties. Headline inflation has begun to decline mainly due to the easing of energy and food prices. The decline in energy prices partly reflects the impact of a warm winter in Europe, which helped to preserve gas storage levels, as well as lower energy consumption in many

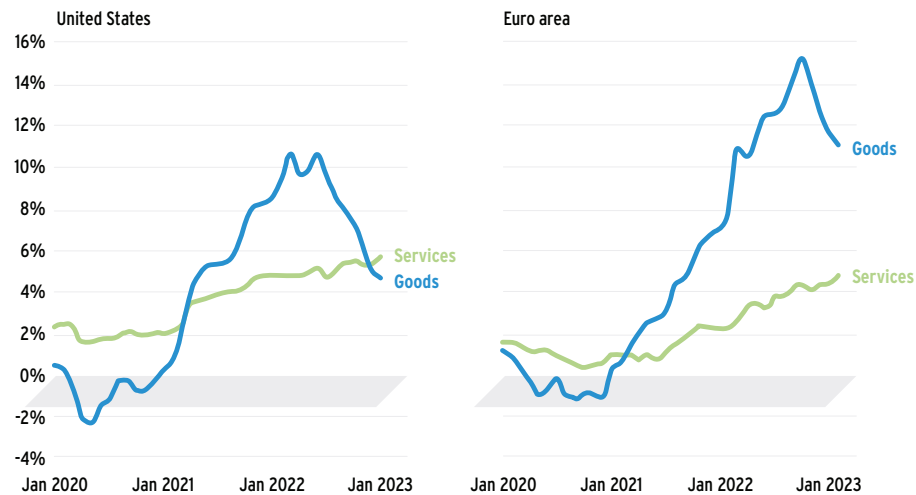
countries. Goods price inflation has started declining in most countries due to the gradual return of normal demand and the easing of global supply chain bottlenecks post COVID. Core inflation (excluding food and energy) continues to be driven by strong service price increases and cost pressures from tight labour markets. Average global inflation is projected to decline from 7.5% in 2022 to 5.2% in 2023 due to the expectation of lower food and energy prices and reduced demand especially in the large developed economies.

Services inflation is still rising

Inflation, %, year-on-year change

7.6%

Services inflation in USA,
January 2023



Note: based on data availability, Euro area average for services include: Austria, Belgium, Spain, Estonia, Finland, France, Greece, Ireland, Italy, Lithuania, Luxembourg, Latvia, Netherlands, Portugal, Slovak Republic and Slovenia; for goods inflation it includes: Austria, Spain, Finland, France.
Source: OECD Economic Outlook, Interim Report March 2023

Boosting future growth is the number one priority

Consistent growth prospects are still a major concern globally. In the United States, growth is expected to be below potential in both 2023 and 2024, as strict monetary policy reduces demand pressures. While average annual growth is projected to fall both this year and next, they will improve thereafter. Growth in the Euro area will also be slow in 2023, but the benefits of lower energy prices and declining inflation should help growth momentum to gradually improve, leaving average annual growth in 2024 almost double the projected 0.8% in 2023. The United Kingdom is also expected to have a mild rebound in 2024, with output rising by 0.9% after a year-on-year decline. Japan, which will have additional fiscal stimulus this year and no change in policy interest rates is projected to grow between 1-1.5% per annum in 2023 and 2024. Korea and Australia will benefit from the expected growth rebound in China, offsetting the impact of tighter financial conditions.

In the last three years low unemployment, high vacancy rates and high inflation in most major economies has increased the pressure on higher wage demands. However, in some countries, including the United States, the pace of wage

increases has now started to level off or even decline. Generally, wage growth remains at rates that are unsustainable and inconsistent with inflation returning to target. With the current weak underlying productivity and growth, this can only be achieved if corporate profit margins contract. Labour markets in many developed economies are marked by low unemployment rates and skilled worker shortages. Since the pandemic, the gender gap in employment rates has narrowed, in part due to increased use of telework and flexible work arrangements in many developed economies.

Growing optimism in emerging markets

The emerging-market economies in Asia are likely to be less affected by the global slowdown, helped by the rebound in China and more moderate inflation pressures. Growth in China is projected to rebound to 5.3% this year, before easing to 4.9% in 2024. India's growth is projected to be around 6% in FY 2023-24, amidst tighter financial conditions, before recovering to around 7% in FY 2024-25, while Indonesia's economy will continue to expand by between 4.7-5% per annum over 2023-24. Growth in many other emerging-market

economies, including Brazil and South Africa, is projected to be sluggish over the next two years, at about 1% per year on average. Economic growth in Turkey is being hampered by the recent earthquakes, but will recover as reconstruction spending picks up, with predictions of full year growth of 2.8% in 2023 and 3.8% in 2024. Output in Russia is expected to decline this year and next, as the drag from economic and financial sanctions starts to build liabilities and external revenues.

Developing economies face an uncertain future

The slight improvement in the major economies is not reflected in the prospects for many developing countries. Many emerging-market economies are facing increasing difficulties in servicing elevated debt and deficits as global interest rates rise, especially in commodity-importing economies or ones in which there is a mismatch between the currency composition of liabilities and external revenues. Quantitative easing and excess global liquidity in the decade before the pandemic were associated with sharp increases in external debt in a large number of developing countries.

Average GDP per capita in Africa and Latin America and the Caribbean is projected to grow only marginally, reinforcing a longer-term trend of stagnating growth performance. Through this year and the next, growth is expected to remain well below the average rate of 3.1 per cent registered during the two decades before the pandemic. Low investment growth, high external debt burdens and vulnerabilities, unpredictable geo-political and climate risks will all lead to a prolonged period of poor growth prospects.

The shift to quantitative tightening, along with higher interest rates, is exerting downward pressures on exchange rates of many developing countries, especially those facing the risk of capital outflows, adversely affecting balance of payment and exacerbating their debt sustainability risks. Low economic growth and increasing financing constraints will further limit the ability of governments to invest in education, health, sustainable infrastructure and energy transition to accelerate progress towards sustainable

development. Low-income economies are particularly at risk of debt distress. IMF (International Monetary Fund) debt-sustainability analyses for low-income countries suggest that over half of the 69 economies assessed were either experiencing debt distress or at high risk of distress as of January 2023.

Light at the end of the tunnel

With global economic growth slowing, energy and food price inflation subsiding, and monetary policy tightening by most of the major central banks, consumer price inflation is expected to moderate. Headline inflation is projected to decline in 2023 and 2024 in almost all G20 economies. Even so, annual inflation will remain well above target almost everywhere through most of 2024. As countries battle crises on multiple fronts, it is crucial not to overlook the long-term challenge of improving their resilience to future shocks in order to achieve sustainable and consistent growth. One of the biggest future shocks is likely to come from climate change, which imposes large economic and social costs and every country needs to plan for the challenges ahead.

After the turbulence of the last three years there are signs that the storm is abating and we are over the worst. Even during these unprecedented times many companies have refocused, adapted and not just survived but thrived. These companies are now stronger, more resilient, more efficient and better equipped to grow in the future. Some companies and market sectors will be changed forever, but constant change, thinking ahead and managing risk is a fundamental attribute of any successful business. Printing has undergone enormous change over the last twenty years with the migration to digital print and digital media services, which proves its resilience and ability to adapt to fluctuating market demands in the future.

Sources:

OECD Economic Outlook
 United Nations Global Economic Outlook
 Pimco Secular Outlook -The Aftershock Economy
 International Monetary Fund - World Economic Outlook
 McKinsey & Company - Economic Outlook 2023