Sector Insights & Outlook

February 2023

Bank of Ireland

Classification: Green

Contents

Foreword – Jilly Clarkin: Head of Customer Journeys and SME Markets: Bank of Ireland Business Banking

Jillian.Clarkin@boi.com

I am delighted to introduce our latest Sectors Development and Insights update, brought to you by our dedicated Sectors Team. Recruited directly from industry, our sector specialists proactively engage with customers and their advisers nationwide, and have a deep understanding of the challenges and opportunities faced by Irish SMEs.

In this report, our sector specialists provide expert analysis on the evolving Irish business landscape and share their outlook for the year ahead across seven key Irish sectors; Agriculture, Hospitality, Health, Retail Convenience, Technology, Manufacturing and Motor.

At Bank of Ireland, we understand that Irish businesses are navigating an ever-changing environment, particularly in the wake of enduring global events, supply chain disruptions, increased costs and changing consumer behaviours. Despite these challenges, Irish businesses have shown remarkable resilience and adaptability, finding innovative ways to thrive in a rapidly changing environment. In this report, we will explore some of the key trends and opportunities for businesses in Ireland, and highlight some of the strategies that SMEs are using to succeed in the face of adversity.

Bank of Ireland remain committed to supporting our customers, we understand that every business is unique, and our Relationship Management and Sectors Teams have the expertise and experience to provide tailored solutions that meet your specific needs.

We hope that you find this report both informative and useful as you plan for the year ahead. If you would like further information please feel free to contact me at Jillian.Clarkin@boi.com. The contact details for all of the sector specialists are also outlined within the individual sector updates contained herein.

We wish you all the best for a successful and prosperous 2023.

Best regards,

Jilly Clarkin

Agriculture 2022 Insights and 2023 Outlook

2022 Review

Summary: A sector delivering growth

2022 will be defined as a year that saw dramatic inflation in farm input prices coupled with record farm-gate prices across most agri commodities as a result of the war in Ukraine and Covid-19 related supply chain uncertainty. Despite the increased costs, the agri sector performed strongly in 2022. Overall, elevated agri commodity prices supported high input costs across feed, fertiliser and fuel. However, the severity of the impact of rising input prices varied by sector. For example, improved milk prices for dairy farmers offset increased input costs in 2022. While higher prices for pig farmers received from late summer were more than eroded by large feed and energy price increases during the year. Weather conditions during 2022 were largely favourable except for some dry summer months which put pressure on grassland systems in some areas. Overall, the sector performed strongly with profits up 30% overall (CSO).

Key Sector Trends in 2022

Agri commodities hit record high in 2022

The FAO Food Price Index (FFPI), which tracks international prices of globally traded agri-food commodities, rose 14% in 2022 – to the highest level since records began in 1990. The index had already increased 28% in 2021 as the world recovered from the impact of the pandemic and is now 46% higher than the 2020 level. The main food indices (cereals, meat and dairy) reached record highs in 2022. The Cereal Price Index increased 18% in 2022 due to market disruptions, higher energy and input costs, adverse weather and continued strong global food demand. The Dairy Price Index rose 20% in 2022 due primarily to robust global demand coupled with somewhat tighter supply, driven by adverse weather in key dairy production regions. The Meat Price Index increased 10% in 2022, with chicken seeing the largest increases in prices (+19%) while pork and beef prices rose 7% respectively in 2022 compared to 2021.

Record prices deliver €2.5bn extra in farm output

Overall, it is estimated that the value of Agricultural Output will increase by €2.5bn (+26%) to €12.7bn in 2022 (CSO) with prices responsible for the majority of the increase. Cereal prices increased 53% and milk prices increased 46% during the year (CSO). Pig prices were up 43% and cattle prices increased 11% (CSO). Poultry prices increased 7%, while egg prices increased 30% during 2022 (CSO).

Inflation costs farmers €1.5bn in 2022

While farm gate prices increased 25% overall in 2022, they didn't rise enough to completely offset input price rises of 33% (CSO). Most farm input prices rose, with fertiliser prices up 141%, energy prices up 39% and feed prices up 28% in 2022 compared with 2021 (CSO). The overall increase in input costs (as opposed to prices) is estimated to be up by a quarter (+€1.5bn) to €7.7bn in 2022. Farmers spent an extra €1.2bn on feed and fertiliser in 2022 - split evenly between fertiliser (€0.6bn) and feed (€0.6bn). As a result of a trebling in fertiliser prices, volumes used fell by 19% resulting in the cost of fertiliser on farms doubling overall. The cost of feed rose by almost one third (+31%) with prices accounting for 28% of this increase. Expenditure on energy rose by 42% (+€200m) to €0.6bn.

Farm profits increase by €1bn in 2022

The increase in the value of farm output outweighed the increased costs, and increased the sector's operating surplus by €1.1bn (+30%) to reach €4.8bn in 2022(CSO). Average farm incomes are expected to be up 25% in 2022 compared to 2021 (Teagasc) with average dairy farm incomes estimated at €148,000, average tillage incomes at €64,000, average cattle rearing incomes at €9,000, average cattle finishing incomes at €17,000 and average sheep incomes at €20,000.

Agri-food exports up 22% in 2022

Irish food and drink exports increased 22% to €16.7bn in 2022. While the majority of the rise was as a result of rising commodity prices, beef and dairy export volumes increased by 9% and 5% respectively in 2022 relative to 2021 (Bord Bia).

Lending to sector at lowest level in 10 years

The sector continues to borrow less and deleverage each year. In 2022, new lending to farmers fell to the lowest level in 10 years. In the first 9 months of 2022, farmers took out €411m of new loans - 19% (€98m) lower than the same period in 2021 (Central Bank). At the same time, farmers continue to deleverage and pay down existing debt at a faster rate than taking out new debt. Outstanding debt on Irish farms continues to decline with €2.8bn of debt outstanding at end September 2022 (Central Bank).

Strong performance by Bank of Ireland in 2022

Bank of Ireland continues to grow its share of new lending to farmers in Ireland. In 2022, Bank of Ireland captured 55% of all new lending to farmers, demonstrating our commitment and appetite to support farmers in their business ambitions. Recognising the challenging environment facing farmers in 2022, Bank of Ireland launched a €100m Agri Assist loan fund, to support farmers dealing with the rapidly increasing cost of farm inputs. The fund provides additional working capital to farmers at competitive rates with extended repayment terms of up to 3 years.

Farmers face into 2023 in a strong position

In 2022, agricultural deposits continued the increase seen in 2021 (Central Bank). This increase is driven by two years of strong profits across the sector. Over the course of 2022, agri deposits with Bank of Ireland increased 28% and are now up 60% since the onset of Covid-19. Overdraft utilisation rates, another key indicator of financial health on farms continues to decrease, driven by the solid financial performance of the sector, delivering strong cashflows and increased cash reserves.

Price Developments in 2022

Food price index (FAO):
+14%
in 2022

Cereal (harvest) Prices (IFJ):
+53%
to
€300/t

Milk prices (CSO):
+46%
to
€0.60/L

Beef Price (DG Agri):
+16%
to
€4.80/kg

Pig Price (DG Agri):
+14%
to
€1.82/kg

Fertiliser price (CSO):
+141%
to
c.€900/t

Feed prices (CSO):
+31%
to
c.€400/t

Sector Performance 2022

Dairy

Milk production, which has been rising every year for the past 10 years as a result of the lifting of milk quotas, stabilised in 2022. Despite marginally higher cow numbers compared to 2021, milk output volumes remained flat at 8.7bn litres in 2022 (CSO). A combination of poor grass growth in the peak production months coupled with reductions in fertiliser use limited the growth in milk output. Like other sectors, the dairy sector experienced a sharp increase in production costs in 2022 but record farm milk prices buffered the impact. Overall, average milk price for the year increased 46% to €0.60/L including VAT (actual fat and protein). Driven by higher direct costs, it is estimated that total production costs increased by 30% on a per litre basis (to an average of €0.35/L in 2022 (Teagasc). Average dairy farm incomes are estimated at €148,000 for 2022.

Beef

Cattle slaughterings increased c. 120,000 head or 7% to c.1.8m head in 2022 - the highest level in 23 years. In 2022, average prices for prime finished cattle were 16% higher than the average levels in 2021. The increased price of feed and fertiliser have contributed towards higher input costs on cattle farms. As a result, average margins on cattle finishing farms increased 7% while average margins on suckler farms decreased 15% in 2022 (Teagasc). Average cattle rearing incomes were €9,000 in 2022, while average cattle finishing incomes were €17,000 in 2022.

Tillage

Despite a 4% contraction in crop volumes in 2022, cereal output prices rose 53% in 2022, leading to overall crop output values increasing by 14% (CSO). Base cereal prices increased c. €100/T to €300/T at harvest as a result of reduced production levels in the EU market and uncertainty regarding Ukraine exports. However, direct costs for cereal production increased significantly in 2022, due mainly to an increase in fuel, fertiliser and seed expenditure. Whilst direct costs were higher in 2022, the increase in price more than covered any input price increases leading to margin expansion on tillage farms in 2022. Overall yields were up in the main cereal crops. On average, direct costs of production increased by 57% in 2022. In order to ensure adequate fodder for winter supplies, a €12m Tillage Incentive Scheme was launched by The Department of Agriculture, Food and the Marine to encourage the growing of tillage crops in 2022.

Sheep

The average mid-season lowland lamb farm margins were boosted by the receipt of payments from the Sheep Welfare Scheme. Total costs increased 28% more than eroding any output value gains. The gross margin for Irish mid-season lowland lamb producers in 2022 is estimated to have decreased by 14%. It is expected that the average lamb price in Ireland for 2022 for the year as a whole will be higher than in 2021. The year-on-year price change is estimated at 4% (CSO).

Pigs

2022 was a very challenging year for pig farmers as rapidly rising production costs quickly outstripped any price rises. While pig prices averaged €1.82/kg in 2022 - an increase of 15% (23c/kg) compared to 2021 - average pig production costs were up 30% (Teagasc). The feed cost is estimated at €1.56/kg for 2022 compared to the 5 year average of €1.20/kg (Teagasc). The key pig production profitability measure, margin over feed, was 26 cent in 2022 (Teagasc) - the lowest level in almost 40 years and leaving the average pig farm in a loss making situation. In order to support the sector as a result of a challenging external environment, two separate packages worth €20m were put in place by the Department of Agriculture, Food and the Marine during the year.

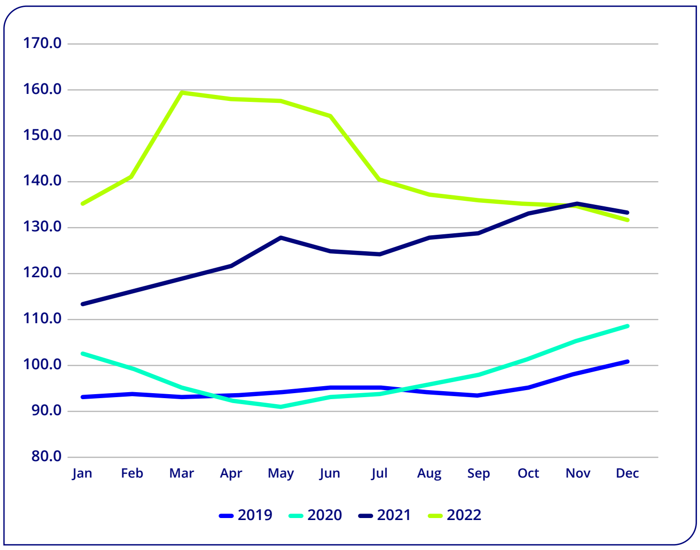
Poultry

Across all the farm sectors, poultry is the only output where values are expected to fall in 2022. A 4% increase in prices was negated by a 5% reduction in output volumes, resulting in the value of poultry falling by 2% (-€3m) to €185m. Rising grain prices continued to erode margins, with price increases slow to come from market (CSO).

Land

While agricultural land prices rose 16% to €11,906 per acre in 2021 (Farmers Journal Land Report) it is expected that, on average, land prices will have increased a further 6% to over €12,000 per acre in 2022. However, some individual parcels are achieving prices well above the average– in excess of €20,000 in some cases. This continues to be driven by limited supply coupled with increased demand – particularly from dairy farmers against a backdrop of evolving nitrates regulations.

FAO Monthly Food Price Index



2023 Outlook

Summary:

Despite a backdrop of slower global economic growth, high inflation, higher interest rates and monetary policy tightening, Irish farmers are coming into 2023 in a strong state, with solid margins, positive cashflows and strengthened balance sheets. Higher input costs are somewhat baked into farms in the short term at least - and likely to remain high for 2023. The evolution of the war in Ukraine and weather will be key determinants as to price levels across key inputs such as fertiliser and feed in 2023. Inflation across the wider economy will also put pressure on other key agri inputs used on farms. The outlook for agri commodities appears calmer than it was 12 months ago with overall farm gate prices expected to decline in 2023 - but still remain above pre-pandemic levels. While margins will tighten in the short term, the long term outlook for the sector remains positive. Given the increased focus at national and EU level on the environmental footprint of farms, the sector has a significant challenge ahead. Policy clarity, a supportive eco-system, and innovation will enable the sector reach its ambition.

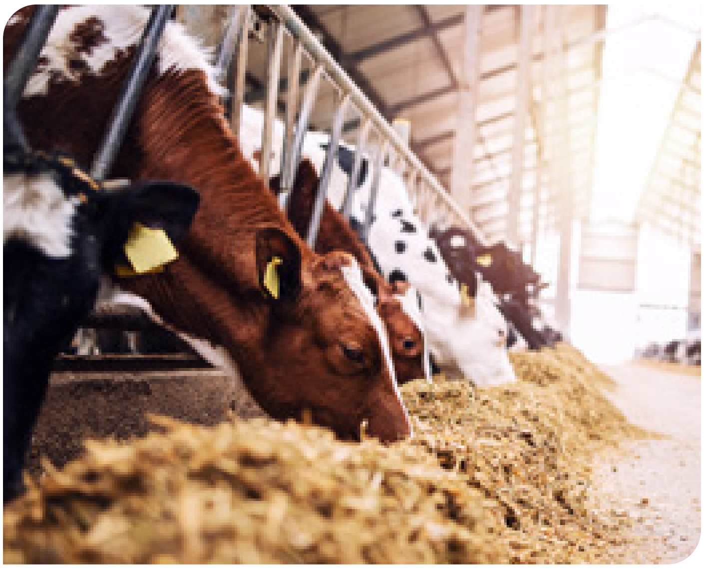
Key numbers for 2023

-€2bn forecast drop in overall operating surplus in 2023

-14% forecast drop in global agri commodity prices in 2023

-20% forecast drop in fertiliser use over 2021 levels

4% forecast increase in domestic milk supply in 2023



Key Sector Trends in in 2023:

Calmer outlook on global agri commodities:
Recent declines in the FAO agri commodity index puts it now slightly under levels seen one year ago mainly driven by demand side factors as a result of a slowdown in global growth. However, a combination of supply-side factors including trade restrictions, unfavourable weather, high energy prices, the war in Ukraine, and low interest rates which have helped keep global food prices rising between 2020 and 2022, could outweigh weakening demand for food commodities, keeping prices high in the next few quarters.

Tight fertiliser supplies keep prices high in near term
As a result of continued closures across several European fertiliser manufacturers, fertiliser is in continued tight supply. Even though gas prices have reduced and this is enabling EU fertiliser production to come back on stream, it is unlikely to rebuild stock levels in time for this season. Therefore it is expected that fertiliser prices will remain higher than long term averages in the first half of 2023. The lower levels of application (-20%) in 2023 are expected to remain.

Farm profits to shrink by €1.5bn in 2023
We are forecasting a drop in overall farm profits in 2023 compared to 2022, as a direct result of falling farm output prices coupled with sustained elevated input prices. Taking the sector as a whole we expect output to fall by c. €1.5bn (-12%) in 2023, input costs to remain largely similar, therefore reflecting a €1.5bn shrinkage in overall operating surplus for 2023. This would see overall profits for the sector fall back to pre-pandemic levels but still ahead of long term average levels.

Outlook will vary across sectors
Despite weakening global dairy markets and lower milk prices, the outlook for dairy remains positive. Milk prices are estimated to fall by c.10c average over the course of the year but still remain above long term average levels. Margins are expected to tighten as fertiliser and energy prices remain elevated. Prospects for finished cattle prices are positive as a result of stronger demand and tighter supplies. Once higher costs of production are taken into account, margins on cattle farms are expected to be similar to 2023. The outlook for cereal prices is weakening since the start of the year, with forward prices for next harvest currently similar to levels seen in 2021. Once higher costs are factored in and assuming similar levels of yield, margins on tillage farms look set to narrow from the relative highs of 2022. Pig prices are forecast to increase in 2023. While feed costs look set to remain elevated, the pig sector is expected to experience improved margins in 2023, with a return to overall profitability for the full year.

Heightened volatility and Agflation: if 2022 has taught us anything it is that price volatility is firmly back on the table across the main global commodities. Reminiscent of the 2008 peaks it is too early to say if agri commodities are at a sustained new level due to rising demand and contracting supply – particularly due to increased environmental regulations. We are now in a period of Agflation - where food prices rise more rapidly than the prices of other goods and services. How this impacts demand across meat, dairy and grain products is yet to be determined as consumers face spending an increased portion of their incomes on feeding themselves.

Ambitious targets to reduce environmental footprint:

Whether it is water quality, global warming or biodiversity, the environmental footprint of primary producers is attracting increased focus nationally, at EU level and globally. As a sector of national importance, there is an acceptance across the industry that it must embrace the challenge. While there is clarity and a roadmap with regards to reducing its greenhouse gas emissions, there is less clarity on how the sector will address water quality and biodiversity targets. This inherently increases risk to the sector and to individual farmers businesses.

Bank of Ireland ready to support environmental ambition:

Offering certainty with clear guidance to farm families over the next decade must be a key priority for stakeholders in the sector. Bank of Ireland is confident that farmers will embrace the environmental challenge and is ready to support farmers to embrace policy changes in the knowledge that much of what is being asked of them will, in the first instance, enhance the environmental sustainability of farms but can also contribute to improving overall farm profitability. The targets will reflect a very challenging but achievable ambition for the sector.

Bank of Ireland is confident about the future of the sector and is committed to supporting farmer's transition to a greener footprint. Banks have a unique role in helping to bridge the gap between finance and sustainability. We expect there will be a requirement for continued investment in infrastructure that improves the overall environmental sustainability of farms, and we will continue to work with farmers and stakeholders to support their future business requirements.

We are ready to support farmers through initiatives such as improved nutrient management, regenerative farming, forestry, organic farming and investing in renewable energy technologies such as Anaerobic Digestion. All of which will provide an opportunity for farmers who wish to consider additional income sources while also contributing significantly to decarbonising the food and energy system.

In Bank of Ireland we recognise that we have a unique opportunity to support our customers and to enable Irish farmers and rural communities to thrive. Our proven financial capabilities and appetite, combined with comprehensive agricultural expertise, provide us with a strong platform to meet the funding requirements of Irish farmers and agri-businesses. We understand the farming cycle, agri commodity price volatility and the regular need to invest to maintain growth and profitability in this dynamic sector. We have a strong appetite to support progressive, innovative and efficient farmers who continue to farm in an environmentally sustainable way.

Sources: Teagasc, CSO, Department of Agriculture (DAFM), Bord Bia, Euromonitor, European Commission, IBEQ, MATIF, LIFFE, IMF, World Bank, FAO.

Eoin Lowry
Head of Agri

eoin.lowry@boi.com
087 223 4061

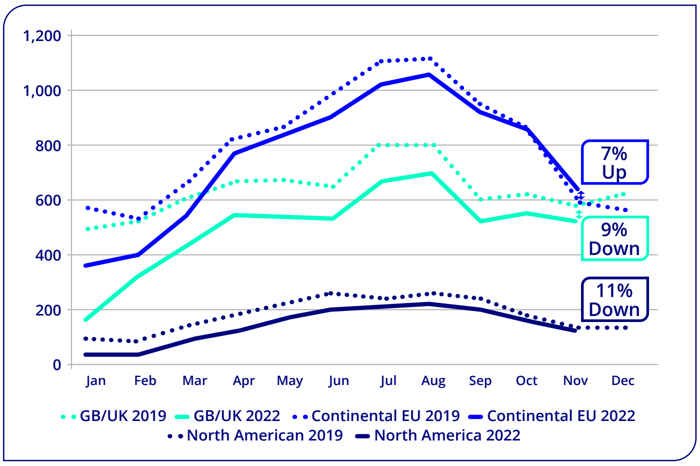
Eoin joined Bank of Ireland in 2020 as Head of Agri, from the Irish Farmers Journal, where he served as Agribusiness Editor upon joining the paper in 2014 and served as Deputy Editor from 2017 until his departure. He also has extensive experience in Irish and international Agri business, including 5 years as Managing Director of Target Fertilisers. Eoin holds a Masters in Agricultural Science from UCD along with an MBA from Smurfit School of Business.

Hotels 2022 H2 Insights and 2023 H1 Outlook

2022 H2 Insights

Despite the many challenges that the hospitality and tourism sector faced during 2022, most accommodation providers reported a very strong year. Record average room rates and a bounce-back in demand/occupancy delivered encouraging turnover figures for many service providers. However, inflationary pressures including a gargantuan increase in energy expenses kept EBITDA margins at bay. An estimated 23% of Fáilte Ireland registered accommodation[1] (16.9% of registered hotel beds) is currently contracted for International Protection **IP** (Refugees) **and** Beneficiaries of Temporary Protection **BOTP** (Displaced Ukrainian citizens). This anomaly continues to distort Key Performance Indicators across all locations with a heavier influence in those areas with a higher concentration of contracted beds like Clare, Laois and Tipperary where over 30% of beds are currently under contract. Overseas arrivals into Ireland surged back to 85% of 2019 levels by the end of November 2022 as per CSO[2] reports, and domestic demand levels remain robust supported by low unemployment levels reported at 4.3%[3] for December 2022. Demand for hotel assets also recovered for the period, with Jones Lang LaSalle (JLL) reporting 19 transactions amounting to €400m[4] during the year, almost double the 2021 figure.

Table 1- Air & Sea Arrivals to Ireland by area of origin, 2022 vs 2019.



Source: Xxxxxxx

Hotel sector key activity and trends H2 2022

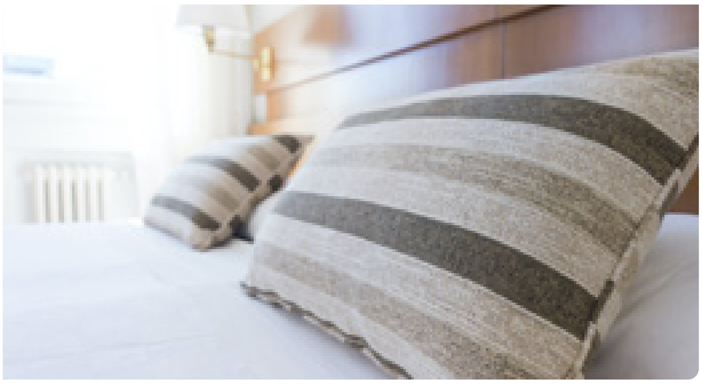
- **Record average room** rates reported by hotel properties across Ireland. Performance was supported by a surge in demand from both domestic and overseas visitors. It is worth noting that some of the average room rate increases relate to the heavy investment and upgrades to hotel assets in Ireland over the last couple of years.
    - Large number of hotel properties (115) have upgraded to 4 star status since 2009. The segment now accounts for 44% of registered hotel properties in Ireland. Almost 50% of the bedroom stock in the country is now "upmarket".
- **Direct Provision.** Approximately 17% of registered hotel beds in Ireland were contracted for direct provision purposes at the end of November 2022.
- **Inflation.** Exponential increase in energy expenses reported by many properties across the country (100%+ increases).
- **Arrivals** into Ireland back to pre-pandemic levels for November 2022 (less than 1% down on 2019 arrivals for the month). At the end of November, EU arrivals have showed the highest level of recovery at 92% of 2019 levels (8% down).
- **Robust Balance Sheets.** Strong deposit balances in the hotel sector supporting capital investment projects across many hotel properties.
- **Staffing.** Difficulties with recruitment and retention remain a top concern for hotel operators.

Hotel investment and development

- ROI Hotel bedroom supply increased marginally over the last year from 62,665 bedrooms to 63,488[5] (823 additional rooms) despite the opening of around 2,200[6] new bedrooms in Dublin during year-end December 2022, and some minor regional openings. The difference comes from a number of hotels taken off the register as they are currently being used for direct provision purposes. Some of these properties are anticipated to come back to the register when a more permanent solution can be provided by the government.
- Within ROI, Dublin continues to lead the way in the development of new hotel bedrooms with just under 2,000 rooms expected by the end of 2024 and a further 11,180 bedrooms currently considered speculative/unconfirmed. Additional hotel bedroom developments are also expected in Cork (2,040 in the pipeline), no material numbers anticiapted in Galway at this stage.

Business & Consumer sentiment

- 68% of businesses in the tourism sector reported more visitors in 2022 compared to last year, 11% have had the same level; 21% report being down[7]. In Dublin it was 91% of businesses that reported an increase (due to the fact that recovery was a little slower in the capital).
- Accommodation sales are reporting a sronger trend than non-accomodation sales in the sector with some operators expressing concerns about profit margins.
- Consumer sentiment remains strong supported by record level of personal savings. Household deposits in Irish banks reached a level of €147 billion in August. This is up from €139 billion in August 2021 and a pre-pandemic level of €109 billion[8]. Postive employment trends reported during the year provide further confidence about discretionary spending patterns in the coming year.



1 Department of Children, Equality, Disability, Integration and Youth; Latest DCEDIY contracted accommodation as a percentage of tourist accommodation; November 2022.
2 CSO; Air & Sea Travel Statistics November 2022 data.
3 CSO; Monthly Unemployment December 2022 update.
4 JLL Research; figure includes 2 site sales and 17 hotel assets.
5 Fáilte Ireland; Tourism Facts, various
6 CBRE; Outlook 2023 Ireland
7 Fáilte Ireland; Tourism Barometer, December 2022
8 IBEC Quarterly Economic Outlook, Q3 2022

Table 2 -Accommodation sales statistics Dublin, Galway, Cork, Limerick, Kilkenny and Regional (2019-2022) [9]

Hotel room sales Key Performance Indicators

Room / Accommodation Sales KPIs	Occupancy %					Average Rate €					RevPAR €					2022 RevPAR Variance Vs			
Location	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022	2018	2019	2020	2021
Dublin All (STR)	84	82	31	38	78	145	142	103	113	170	122	117	31	42	132	8%	13%	321%	211%
Dublin city centre (STR)	85	83	26	32	75	172	167	125	134	196	147	140	33	43	147	0%	5%	346%	238%
Galway (Trending)	77	77	48	58	76	114	111	100	131	138	88	85	48	75	104	18%	22%	116%	38%
Cork (Trending)	81	80	46	50	74	107	113	100	128	144	86	90	46	65	106	23%	18%	132%	64%
Cork (STR)	81	78	39	47	73	118	113	102	127	151	95	88	40	60	110	16%	25%	175%	83%
Limerick (Trending)	71	75	40	40	78	80	88	73	91	109	57	65	29	37	85	50%	30%	194%	131%
Kilkenny (STR)	73		38	44	68	113		120	158	165	82		45	69	112	37%	N/A	147%	64%
Regional (Trending)	77	78	46	52	76	99	100	87	111	126	77	77	40	58	95	24%	23%	138%	65%

(Source: STR & Trending.ie)

Accommodation sales key performance metrics H2 2022

- **Galway City.** Average room rate growth of €27 (24%) reported for year-end December 2022 vs 2019 with an average occupancy of 75.5% (1.2% down on 2019). Overall, a great result for the city with RevPAR up 22% on 2019.
- **Limerick City** reported outstanding performance during year-end December 2022 with both average occupancy and average rate exceeding pre-pandemic (2019) levels. Year-end RevPAR for December 2022 was 30% up on 2019.
- **Cork City** reported a €31.2 (28%) increase in average rate for year-ending December 2022 vs same period 2019, although slightly softer occupancy diluted the RevPAR increase to 18% for the period.
- **Dublin.** Both Dublin City and the wider Dublin area reported a sharp rebound in demand over the second half of last year.
    - Dublin Region – Record average room rate of €170 reported for year-end 2022 (20% up on 2019) but 6% down in occupancy vs the same period.
    - Dublin City – Dublin City finished year-end December 2022 with an average room rate of €196, 15% ahead of Dublin region and 17% ahead of the same period in 2019.

N.B. VAT Rate was higher in 2019 (13.5% in 2019 vs 9% in 2022) so comparisons are not exactly like for like.

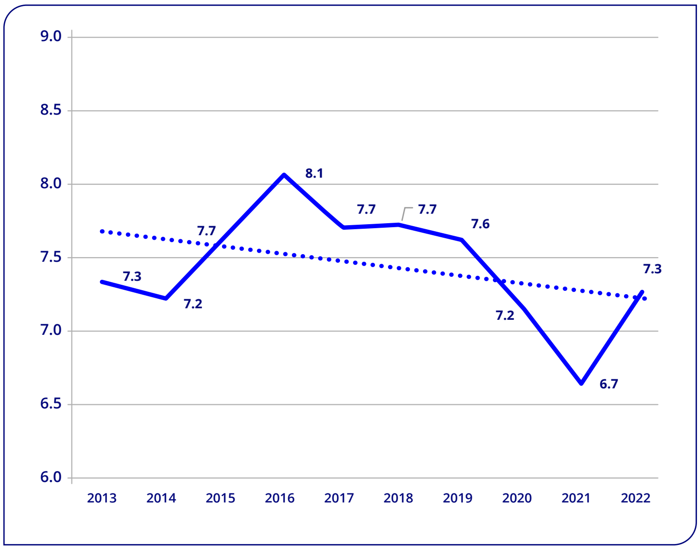
Food and Beverage sales

- Food sales showed strong recovery for the for the Hotel and Accommodation sector[10] during 2022. Sales volumes, estimated at €1.024bn represent 88% of those delivered during year end 2019 by the sector.
- Limited Service restaurants, coffee shops and cafés reported stronger bounceback in trade and are already trading at similar levels.
- Alcohol consumption in Ireland resurged in 2022 after a decline in the two previous years. This is no big surprise as licensed premises were unable to trade for a prolonged period of time.

Table 3- Bord Bia Food Services Market trend

ROI Foodservice Market	2018	2019	2020	2021	2022	Index of Recovery 2023 2019 = 100
Limited Service Restaurants	2151	2266	1520	1738	2355	113.5
Hotels and Accommodation	1090	1157	491	551	1024	103.1
Pubs	1014	1039	350	352	979	104.1
Full Service Restaurants	694	727	313	380	693	108.9
Coffee Shops and Cafés	342	362	246	291	360	108.7
Other Commercial	242	258	79	107	251	108.6
Institutional	496	515	299	294	437	93.6
Total	**€6.03bn**	**€6.3bn**	**€3.3bn**	**€3.7bn**	**€6.10bn**	**107.4**

Table 4 - Alcohol consumption Ireland – Litres per adult trend (Quarter 1 to Quarter 3 only)



Short-Term Tourist Letting Register

- On December 7th, 2022, the government announced the approval of the priority drafting of the Registration of Short-Term Tourist Letting Bill and publication of the General Scheme of the Bill[11]. It is estimated that up to 12,000 rooms may come back to the long-term rental market (out of the short-term) as a result of this initiative. Some of the provisions included in the bill are:
    - Valid registration number provided by Fáilte Ireland required by properties advertised for short-term letting (including through online platforms).
    - Suppliers offering accommodation for periods of up to and including 21 nights will need to be registered with Fáilte Ireland.
    - Fáilte Ireland, for the first time, to have a full picture of tourist accommodation across the State, significantly enhancing their ability to promote and drive tourism investment.

Bank of Ireland lending activity

Investor sentiment remains strong as evidenced by the value and volume of transactions completed during 2022 (well ahead of pre-pandemic average). During the year Bank of Ireland supported several customers to complete refinances out of other financial institutions, hotel asset acquisitions, as well as equity releases to complete investor buyouts. Support was also extended for a number of properties completing largescale refurbishments, extensions and investment required to improve / secure Green credentials. Requests for overdraft and working capital facilities remain largely muted due to record level of deposit balances held by the sector.

[9] CoStar STR December 2022 data for Dublin All, Dublin City, Cork & Kilkenny; Trending.ie data for Cork, Galway, Limerick & Regional Ireland.
[10] Bord Bia; Food Service Market & Consumer Insights report 2022
[11] Gov.ie; Press Release; Press release; Short-Term Tourist Letting Register to be established through new legislation From Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media.

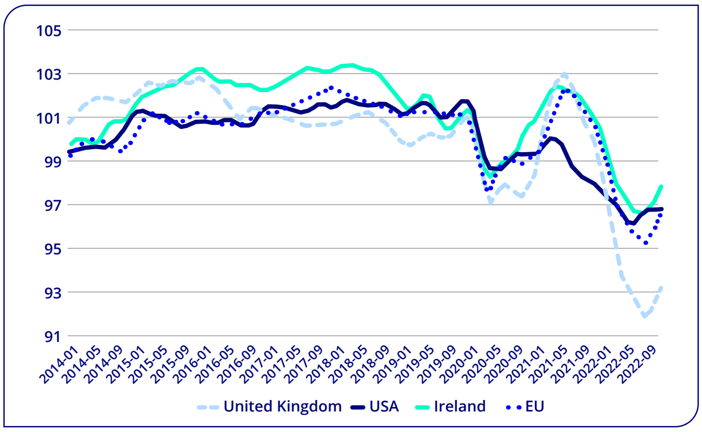
2023 H1 Outlook

After the first full year of post-pandemic trade, hotel operators are more optimistic about the future of the sector. Businesses are reporting strong levels of bookings and sustained average room rates for the first quarter of this year which is driving business sentiment on an upward trend, as evidenced by the latest Fáilte Ireland Tourism Barometer (December 2022 update). However, businesses owners and managers are concerned about a few issues, including the anticipated increase in the hospitality VAT[12] rate, inflation (including energy costs), the slowdown in the Tech sector, and fears of recession expressed by leading economists at the World Economic Forum in Davos[13]. The VAT increase from 9% to 13.5% could have an immediate negative impact in profit margins across the sector, particularly detrimental for businesses with a higher dependency on food sales as the margins on these have been under increased pressure in recent times.

Trends

- After two years of strong profits recorded by leading operators, a substantial number of **refurbishments and extensions** as well as equipment **upgrades** (focusing on energy efficiency) are on the cards for several hotel properties across Ireland for 2023.
- An increasing number of hotels will **focus on** securing **Green credentials and wider "ESG" certifications** in the coming year as sustainability continues to ascend in the customers 'decision making matrix'.
- Sourcing of accommodation for people seeking International Protection (IP) and for those fleeing the war in Ukraine (BOTP) is becoming increasingly difficult for the government of Ireland. A number of longer-term viable solutions are currently under consideration by the government to reduce the over reliance on the sector.
- **Talent recruitment, and development and retention** strategies continue to evolve. Employers are increasingly offering more flexible working conditions, incentives and benefits like staff accommodation to attract staff.
- Inflationary fears are **negatively impacting on forecasted profit margins** for the coming year. Many hotel properties have budgeted a marginal decline in EBITDA margins reflecting the impact of increases in energy, wages and cost of food and drink.
- Numerous wedding venue operators have reported a **softening of average wedding party numbers**. The trend might become a legacy after the restrictions imposed on the sector during the intermittent lockdowns of the pandemic.
- Consumer confidence index[14] appears to have turned a corner during the last quarter of 2022 with the US, the UK, Ireland and the EU all reporting a positive shift which should provide further confidence to the sector for the year ahead.
- Bord Bia estimates food services in the Hotel and Accommodation services sector will return to pre-pandemic (2019) levels by the end of this year.

Table 5. Consumer confidence Index December 2022 (OECD)



Active government supports & schemes

- **TBESS Scheme[15].** Launched at the end of last year, this scheme provides qualifying businesses with up to 40% of the increase in electricity or gas bills up to €10,000 per month.
- **Warehoused Tax[16].** The Warehousing of tax is currently on "Period 2" at the end of which "Period 3" (01/05/23) a 3% interest rate will begin to apply until the final payment date. Businesses have until the 30th of April 2024 to arrange a payment schedule.
- **SBCI Energy Efficiency Loan Scheme[17].** A low-cost scheme designed to support eligible SMEs, including primary producers, investing in the energy efficiency of their enterprises.

Hotel development

After a few years of heightened hotel development planning permissions and the delivery of about 4,800 rooms in Dublin City between 2018 and 2022, the pipeline appears to be slowing down. Development costs remain very high and are not expected to come down in the short term according to recent JLL research[18].

Gerardo Larios Rizo
Head of Hospitality Sector, Bank of Ireland

Gerardo.LariosRizo@boi.com

+353 87 7951253

[12] Gov.ie; Press Release; Minister Donohoe announces extension of 9% VAT rate for the tourism and hospitality sectors.
[13] RTE; News; Business; Global recession seen likely in 2023 - WEF survey
[14] OECD.org; Consumer Confidence Index data; December 2022
[15] Revenue.ie; Starting-a-business/TBESS
[16] Revenue.ie; Starting-a-business; Paying-your-tax/debt-warehousing; Warehouse-extension-2022
[17] SBCI.gov.ie; Products; Energy-efficiency-loan-scheme-EELS
[18] JLL; Construction Costs Outlook; Niall Gargan (Head of Research)

Health 2022 Insights and 2023 Outlook

Summary

In a month or so, we will mark the third anniversary of the start of the pandemic and many in health services will recall the collective trauma of Spring 2020. As we gain distance from the acute crisis phase of the pandemic, the health sector continues to adjust towards a new equilibrium. One of the many lessons of the pandemic is a reminder that we would do well to consider the health care system as a complex, interdependent and ever-evolving ecosystem. Whilst 2022 was an extremely challenging year for the sector - innovation, collaboration and sustainability will be key to success in 2023.

Trends & Insights

Demographics & Demand

- Ireland's population is now 5.1 million[1], an increase in 7.6% in a six-year period. In addition, latest figures show in excess of 67,000 Ukrainian persons[2] now accommodated here. This, coupled with the 'tripledemic' of flu, COVID-19 and RSV, has put unprecedented demand on our healthcare system. With an ageing population comes increased demand for both acute and chronic services. Within this population, dementia is also presenting as one of the greatest health challenges.
- Concern in 2022 focused on the capacity of public services and the current need to ease pressure on the HSE. This presented private sector opportunities, such as utilising capacity in private hospitals and private nursing homes and an increased role for community pharmacists in vaccinations and women's health.

Changing Landscape

- 2022 saw further consolidation throughout the sector and a lot of transactional activity. It also saw 11 independent nursing homes close their doors or leave the Fair Deal scheme, the average size being 30 beds. Four new homes opened on Greenfield sites in Cork, Dublin, Meath and Louth, with an average size of 112 beds[3]. These were all nursing home groups, three being Silver Stream Healthcare with the other being Virtue Integrated Elder Care.
- The nursing home market has continued to attract new private equity and REIT entrants with a continued trend of the 'OpCo /PropCo' structure, separating the operating company (OpCo) from the property company (PropCo).
- Last year saw a decline in the volume of nursing home transactions, with 18 transactions recording pricing of around €440m, compared to 25 transactions totalling approximately €630m in 2021[4]. The majority of transactions had an element of 'investment', whether by way of a sale & leaseback or an OpCo/ PropCo split of a Going Concern transaction. The consolidation trend looks set to continue, although at a reduced rate compared to previous years as much of the good quality, future proofed stock has already been acquired.
- We also have seen the development of Céile Care, a nationwide network of eighteen independent Nursing Homes working together to benefit from economies of scale, shared operational and governance services, and support with HSE tendering processes.
- With 14 pharmacy closures and 12 new businesses opened, 2022 represented a break in the post-deregulation trend of year-on-year increases in community pharmacy businesses. Recently published analysis of 2019/2020 data suggests current market saturation with more than half of the closures in the period were of new pharmacy businesses with the majority closing within five years of opening[5].
- 2022 saw thirty pharmacy transactions with independent and symbol businesses accounting for 96%[6].

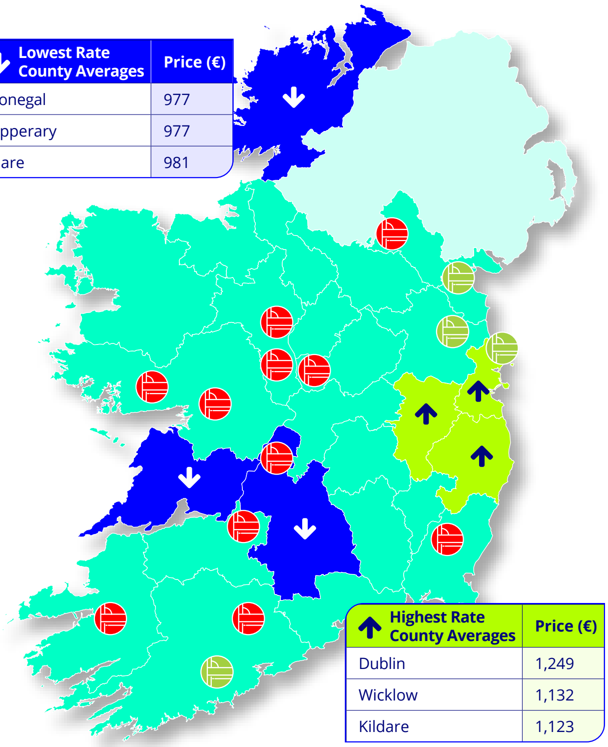
2022 Nursing Home Openings & Closures/Left Fair Deal Scheme

	2022
Openings	4
Beds added	448
Average bed number	112

	2022
Homes Closed/Left Fair Deal Scheme	*11
Beds removed	*328
Average bed number	*30

*excludes Beaumount Lodge Residential Home (221 beds) which became Transitional Care facility run by Bartra on behalf of the HSE

Highest & Lowest County NTPF Rates



Lowest Rate County Averages	Price (€)
Donegal	977
Tipperary	977
Clare	981

Highest Rate County Averages	Price (€)
Dublin	1,249
Wicklow	1,132
Kildare	1,123

NTPF Lowest Country Averages   NTPF Highest County Averages
Beds added   Beds removed

Source: JPA Brenson Lawlor

Pharmacies sold by region

3 Connacht/ Ulster
9 Dublin
12 Munster
6 Leinster

Pharmacies sold by Pharmacy type

26 Independent
3 Symbol Group
1 Indigenous Group
0 Group

Source: Fitzgerald Power

Staffing

- The low 4.3% unemployment rate[7] contributed to a tight labour market in 2022, with health identified as one of the sectors with the highest employment growth. The health sector experienced high staff attrition rates due to burnout, with private nursing homes losing staff trained within the sector to HSE services. Staffing has also been a major headwind for community pharmacies. With a growing shortage of Pharmacists and a reliance on expensive locum cover, staff costs accounted for a significant proportion of gross profit margin reductions. Reports have indicated that it can take up to five months on average to fill a vacant position[8]. These shortages have resulted in some pharmacies having to alter their opening hours, resulting in reduced services in some locations. Others have offered innovative solutions such as profit share or equity share options to upcoming pharmacists.

- Although 2022 saw 'Pharmacists' being added to the Critical Skills Occupation List, the Irish Pharmacy Union expressed deep disappointment that there were no extra third level places offered for the 2022 academic year.

Costs, Funding & Margins

- Inflation and interest rises, coupled with soaring energy prices, have seen operational cost increases across the board in the health sector. Government financial supports have helped businesses absorb an element of these costs and larger companies have been better able to withstand the squeeze to profit margins.
- Over recent months, nursing homes have been seen to receive a larger than average increase in their National Treatment Purchase Fund (NTPF/Fair Deal) rate, with average increases of 3.53%, compared to a national average of 2.87% in the previous year[9]. These rises however do not match inflation. Nursing Homes Ireland (NHI) has launched a formal complaint to EU competition officials[10] regarding a 62% difference in funding rates between HSE Community Hospitals and private nursing home facilities, considered by NHI to be like-for-like services.
- Irish community pharmacies have been beset by severe supply chain issues linked to global shortages in medicines and national funding structures. As well as the evident risk to patient safety, this adds an administrative burden and results in additional operational cost increases. Coupled with legacy cuts to the fees pharmacists can charge (average €4.74 per item[11]) the costs have contributed to squeezed margins. The Irish Pharmacy Union (IPU) has called for increases to fees in 2023. Pharmacists are limited in how they can respond to increased costs, with some investing in robotics and digitalisation to improve efficiency.

Outlook 2023

Further strong headwinds seem inevitable in 2023, with macroeconomic uncertainty and inflationary pressures likely to persist. The pace of growth is set to moderate, with the OECD predicting less than 1% growth in the Irish economy. However, the increasing population trend will also continue, with the number of over 65-year-olds growing faster than any other age group and predicted to double to 1.6 million by 2051[12]. Healthcare is non- cyclical, and our growing and ageing population will always require health services. There are multiple opportunities for nursing homes and pharmacies to develop and future-proof their businesses, whether it is nursing homes looking at extending or reconfiguring their facilities, or pharmacies looking to invest in patient consultation rooms, robotics or upgrading their premises.

Staffing will be the single biggest challenge across the health service. The introduction of mandatory sick pay, auto enrolment into a pension scheme, an extra bank holiday and an 80c increase to the minimum wage will all contribute to increased staffing costs. A pay rise to public health sector workers is likely to attract more staff from the private sector.

The current shortage of pharmacists will remain a major issue, with locum pharmacists able to earn in 3 days what a full-time staff member can earn in a week[13]. Healthcare businesses will need to focus more than ever on staff satisfaction and retention.

My assessment is that companies who invest wisely in the areas of sustainability, collaboration and digitalisation will best weather the headwinds. With wage inflation, higher costs for supplies and increases in capital costs also set to continue, innovation in key areas will be rewarded.

Sustainability

- Globally, healthcare's climate footprint is equivalent to 4.4% of net emissions[14]. The energy crisis has seen businesses start to invest in energy efficiency technologies such as heat pumps and solar panels, the latter of which are now exempt from requiring planning permission[15]. While some health companies in Ireland have been proactive in signing up to independent oversight/certification by companies such as Ecomerit, the sector is considered to have been slow in responding to the government's Climate Action Plan.
- Sustainability will no longer be an aspiration but a priority requirement, as disclosure of ESG performance indicators becomes obligatory under the Corporate Sustainability Reporting Directive (CSRD). Transition within the sector will necessitate a range of measures, such as ensuring healthcare is powered with clean renewable energy, zero emissions buildings, low-carbon pharmaceuticals and circular healthcare waste management systems.
- The Climate Action Plan comes with resources such as the climate toolkit for businesses and carbon calculator for SMEs together with the availability of various grants via SEAI[16]. The SBCI also operates an Energy Efficiency Loan Scheme[17] aimed at enabling SMEs to invest in the energy efficiency of their business.
- The healthcare industry can reduce its emissions without compromising patient safety or quality of care and helping the bottom line.

Collaboration

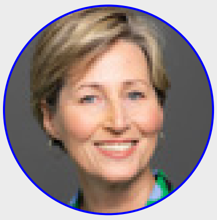
- The pandemic highlighted beyond doubt the need for enhanced cooperation and collaboration between the private sector, the HSE and the Department of Health. Consumer research indicates public support for a joint approach between the public and private systems in tackling the big challenges of waiting lists and capacity[18].
- There is potential for nursing home operators to diversify, securing HSE agreements with enhanced weekly rates. For example, nursing homes with development potential and situated near an acute hospital could be ideally placed to accept patients requiring transitional care. Similarly, with GPs under workload pressure, linked to a reported 42% deficit in GP numbers in Ireland[19], the IPU are campaigning for regulatory changes which would increase opportunities for pharmacists to widen their clinical scope of practice, such as prescribing for minor ailments[20].

Digitalisation

- Healthcare leaders need to continue to invest in enabling technologies. These technologies include digital health and staff records, telehealth and artificial intelligence (AI) tools that will enhance efficiency, improve care and connect various healthcare professionals, enabling a more integrated model. Digitalisation is the future and will help alleviate the burden felt by healthcare staff.
- Private nursing homes have long been ahead of HSE facilities in the use of digital technology, with systems such as Care Monitor and Epic Solutions. Many community pharmacies also use various systems, such as McLernons, but breaking down information silos will drive efficiency and improve outcomes. There is scope to increase e-commerce activity through sophisticated use of first-party data, informing strategy by helping to know and understand customers.
- Digital transformation in healthcare will continue to be a key driver in enhancing business efficiency and delivering significant cost savings, whilst also meeting sustainability challenges.

Bank of Ireland

In the coming months and years, the healthcare system will need to strengthen collaborative working across partner organisations. Strong leadership will be required to deliver sustainability changes, drive improvement and encourage innovation. **Bank of Ireland** understands the challenges faced by private health companies across the sector. We are a strong supporter of innovative change and will continue to work closely with our customers and communities to enable them to thrive in the current headwinds.



Gráinne Henson
Head of Healthcare Sector, Bank of Ireland

grainne.henson@boi.com

087 934 6793

Sources:

1 *CSO Preliminary Census population data 2022*
2 *CSO Arrivals from Ukraine in Ireland Series 8 19th December 2022*
3 *JP JPA Brenson Lawlor, Irish Nursing Home Sector Briefing December 2022 (*data excludes Beaumount Lodge Residential Home)*
4 *CBRE Ireland, 2023, yet unpublished data*
5 *IPN, Pharmacy Pulse 2022 in Review. December 2022*
6 *Fitzgerald Power, yet unpublished, 2023*
7 *CSO December 2022*
8 *IPU/B&A 'Workforce Survey' June 2022*
9 *JPA Brenson Lawlor, Irish Nursing Home Sector Briefing Q4 –December 2022*
10 *NHI December 2022*
11 *Budget 2023 'must address underfunding of pharmacy sector'*
12 *CSO 2022*
13 *IPN, Fitzgerald Power, December 2022*
14 *Health Care's Climate Footprint, ARUP, September 2019*
15 *New planning permission exemptions for rooftop solar panels, Dept of Housing/ Local Government & Heritage October 2022*
16 *SEAI.ie*
17 *SBCI.gov.ie; Products; Energy-efficiency-loan-scheme-EELS*
18 *PHA Private hospitals new era of partnership to meet greater patient needs in coming decade. November 2021*
19 *Medical Workforce Intelligence Report 2021*
20 *IPU Pre Budget 2023 Submission*

Manufacturing 2022 H2 Insights and 2023 H1 Outlook

2022 - A year of growth, war, geopolitics, China lockdowns, inflation, energy security risks, growing risk adversity and the new accepted norm of unpredictable volatility

Irish Manufacturing started 2022 on an optimistic note with COVID-19 receding, Brexit in the rear view mirror, supply chain pain moderating, high order books and a positive outlook for more stable operations following 2021 turbulence.

Just as manufacturing eased back from firefighting mode to a more strategic focus, two shocks disrupted this new found "temporary stability". Russia invaded Ukraine and triggered a brutal and unconscionable conflict with enormous humanitarian consequences. Secondly, large cities across China went into lockdown and essentially closed down businesses to rest of the world.

Early optimism was short lived and Manufacturing was confronted with the new norm of unpredictable volatility. A whole new set of headwinds entered the already full agenda including:

- Commodity shortages and associated inflation from Russia and Ukraine
- "Hidden" supply chain bottlenecks as Manufacturing grappled with lower tiers of supply
- China lockdowns continue to impact
- The risks exposed of doing business with autocracies
- Reduced and more expensive transport routes as Russia and Ukraine are no fly zones
- Trade sanctions
- Energy security, shortages and fears of rationing
- Persistent High Inflation with actual measure double that of start of year forecasts
- Demand for manufacturing goods drop as consumers shift to service spend, risk adversity increases, and business confidence drops against the prospects of a deeper economic downturn
- Purchase Managers' Index (PMI) starts to trend downwards for EU, UK, US from Jul. and for IE from Nov.
- Rising interest rates

Despite these "headwinds", Irish Manufacturing has delivered a stellar performance in 2022 with huge resilience dividends acquired during the 2021 "adjustments" to COVID-19 and Brexit. Multi-National Corporations (MNCs) and Small to Medium Enterprises (SMEs) across Manufacturing have delivered a record set of numbers to the Irish economy including:

- Value of Irish exports are up year-on-year by +27%
- Corporation tax overall is up by 50% to €22.6BN of which ca. €5BN is attributable to Manufacturing
- MNC Employment grew 9% to highest level of 301K
- SME/ Enterprise Ireland Employment grew 5% to 218K
- Employment in Manufacturing stands at 260K up from 230K in 2018
- Manufacturing are embracing the Green Agenda driven in part by energy security
- SMEs proven to be the engine of MNCs and Manufacturing growth

2023 will see a correction to flat and best case moderate growth depending on subsector. Employment and opportunities will remain strong in the sector. The green agenda is one of those opportunities and will gain momentum as businesses move from plans to action to compliance with regulations and customer expectations. Investment in automation and digitalisation will gain ground. Irish manufacturing SMEs will continue to benefit from MNCs continuing to de-risk and reconfigure their supply chains to something more resilient. In summary, 2023 is a mixed picture for manufacturing characterised by a kaleidoscope of slower growth, moderating orders, reduced business confidence, macroeconomic uncertainty, the impact of all of which are all dependent on subsector health and the economic performance of our trading partners. The era of predictable unpredictability is here to stay.

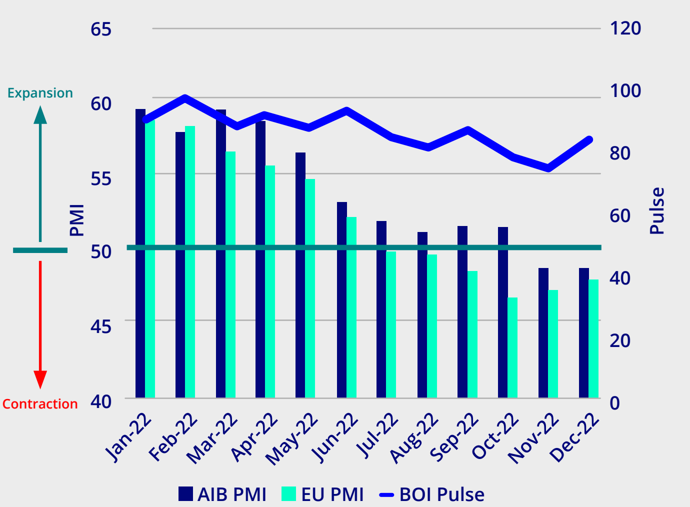
Summary of Key Impacts

- **COVID-19 Pandemic:** While COVID-19 has gone to the rear view mirror, Manufacturing will continue to double down on employee safety and wellbeing. Mindful of new variants, antigen testing and workplace cleanliness will continue to minimise absenteeism and protect operations. 2023 will be a year where hybrid working models become "operational". Given the "problem solving, innovation and collaboration" culture of Manufacturing, businesses will strive to maximise employees' presence onsite.
- **Brexit:** Exposed Irish Manufacturing has adjusted and there is of late no negative noise from players specifically in connection with Brexit. Many have benefited from new EU customers, technology transfers and unexpected higher sales volumes with the UK. The latter stems from former EU supplier unwillingness to endure the paperwork burden and so Irish SMEs have been the beneficiaries. CSO data continues to underline the increase in cross border trade with NI and shows trade up YOY (Exports + 20%) with the UK. Logistics and transportation have irreversibly changed. Direct routes to EU are up from 30 to 77. Manufacturers have simply prioritised these direct and secure routes to and from EU over pre-Brexit lower cost and faster land bridge alternatives. The concern now has shifted to the UK economy recession and how that will impact demand.
- **Russia Ukraine Conflict:** Sadly the Russia Ukraine conflict continues. It has highlighted risks of:
  - Key commodity bottlenecks – concentration risk
  - Risk of trading with autocracies – 109K EU firms have tier 3 suppliers in Russia Ukraine.
  - Accelerated the need for Strategic Autonomy e.g. chip manufacturing expansion plans in US and EU
- **Factory Operations:** With the headwinds of energy inflation and labour shortages, Manufacturing response has been twofold. Behavioural and shift pattern changes to optimise energy usage (see more under ESG section) and an acceleration of the digital agenda and higher levels of automation.
- **Unpredictable volatility** has become the new normal
- **Supply Chain Resilience** is top priority for manufacturing to maintain business continuity and protect reputation. Russia Ukraine conflict has exacerbated this headwind
- **Irish Manufacturing have shown remarkable resourcefulness and responded with:**
  - Flexibility, Just in Case, Agility now trump efficiency and Just In Time models
  - Stock building as an insurance policy, and bearing the costs of higher working capital
  - Technology transfer and greater vertical integration
  - Reconfigure supply chain footprint with dual and alternative supply sources
  - Data Mapping supply tiers 2 & 3 using "digital twins" to model supply risk scenarios.
  - Irish SMEs benefitting from MNC supply chain de risking strategies
  - Increased online presence as fulfilment channel

- **Supply Chain Disruption Costs are high.** €1,350m or 1.7% of revenue for 300 IE/UK companies according to survey as part of a 1500 Global sample surveyed. (Source: Interos)
- **Inflation has eased to 8.2% in Dec. 2022 but will remain elevated in 2023**
  - SMEs are passing on costs but not without pushback
  - Given long lead times, higher price tags, lower spending capacity, consumers are delaying purchases or switching to service offerings e.g. holidays and leisure.
- **2022 Irish GDP** of which Manufacturing contributes 35% grew by +12.2%. 2023 is forecast to grow by +3.2%
  - Manufacturing exports up 27% in 2022
  - IDA FDI growth with 242 investments won in 2022
- **Purchase Managers Index (PMI) data.** Latest 2022 Q4 contraction trends are driven by slowdown in orders and production output. Higher risk adversity, tighter spending, interest rates hikes and lower business confidence all serve to amplify fears of an economic downturn.
- **Labour market shortages.** Addressed with increased levels of automation and in-house employee networks. Tech job losses may ease certain skill shortages in manufacturing.
- **ESG and Digital agendas gained momentum in 2022.** Driven by a combination of digital transformation, supply chain reconfiguration, ESG metrics, regulatory compliance and higher fuel costs improving payback periods for electrification and renewable sources.

Key Trends and Metrics for Irish Manufacturing Sector

Table 1. Manufacturing Activity - 2022



Sources: BOI/S&P Global

Both PMI and Pulse data show a similar pattern of early strong expansion followed by contraction, first in EU in July and then in Ireland from November. These sub 50 readings are driven by mainly falling new orders but this negative impact is somewhat mitigated by high order backlogs which are keeping output at strong levels. The concern is that new orders will not replenish order books fast enough to return to expansion territory. However both a welcome drop in inflation in December, and an easing of downturn in EU during Q4, offer fragile prospects of a return to growth in the medium-term.

Bank of Ireland Economic Pulse

BOI Industry Pulse is a survey of 300 companies measured a high of 96.2 in February reflecting strong orders, output, business optimism and growth in employment in the sector as vaccines rolled out and global economies return to pre pandemic expansion mode. This has since dropped by more than 20 points to 74.8 in November reflecting the slowdown and growing negative outlook.

Irish Manufacturing PMI

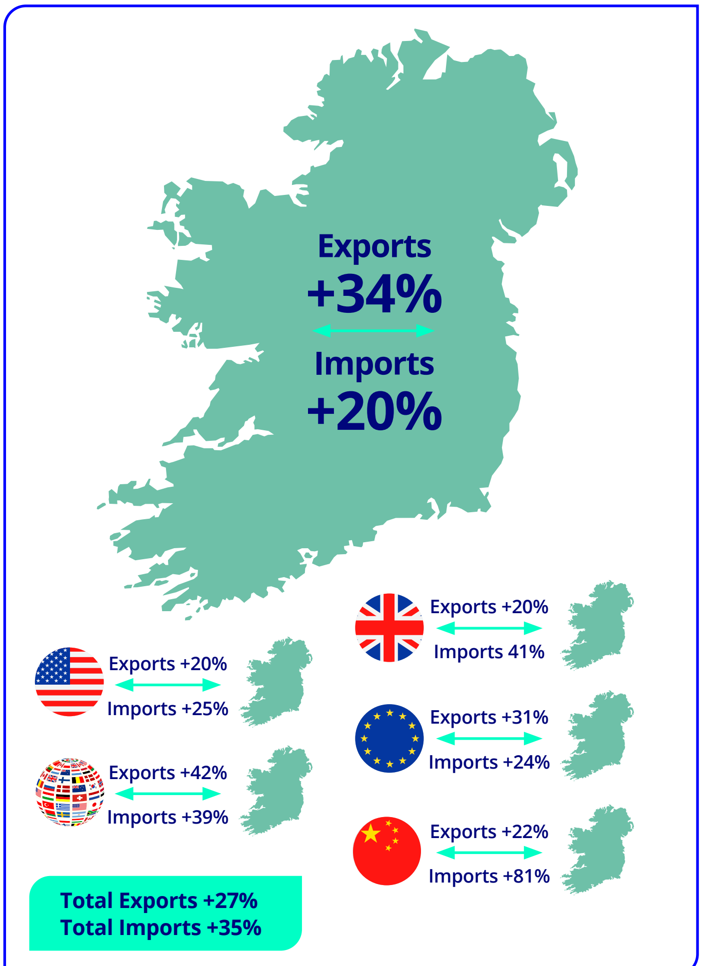
PMI is a survey of 250 manufacturing companies, and a result greater than 50 represents expansion. From a high of 59.4 in Q1, the measure has seen a downward trend and into contraction territory of 48.7 in Q4 as orders decline and demand weakens. The concern is that this scenario drags on into Q2 and starts to impact employment and output levels.

Table 2 Industrial Output, Turnover, Imports and Exports

	Jan-Nov 2022	Sept-Nov 2022
Manufacturing, Production & Turnover	**Annual % change**	**Annual % change**
Production	1%	41%
Modern	-3%	44%
Traditional	14%	13%
Turnover	26%	47%

Source: CSO

Table 3. Jan - Nov 2022



Source: CSO

As per table 2 Industry output and turnover shows YOY growth. While the YTD figures show marginal overall growth in output at 1%, the most recent 3 months data from Sept. to Nov. shows high growth in both sectors at 41% but in particular at 44% concentrated in the modern sectors of Pharmaceutical, Medical Devices and ICT. Manufacturing turnover annual growth is strong at 26% and aligns with the export performance reviewed below.

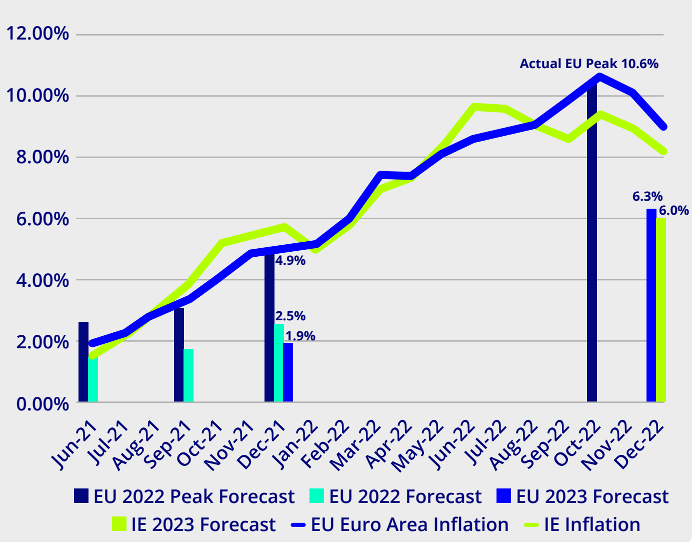
Imports and exports performance are summarised graphically (Table 3) for the period from Jan. – Nov. 2022. 2022 was a **record year** with total exports at €175Bn up 27% from €136Bn in 2021. Imports were up YOY by 35% to €106Bn from €77Bn. These dramatic increases can be explained by a combination of volume, inflation and stockpiling in the case of imports. Volumes are up with all trading partners including the UK, underlining the fact that Brexit has not had in totality a negative impact on trade. In terms of commodities, Chemicals/Pharma/Medical Devices and Transport/ Machinery were the largest contributors to growth in both imports and exports.

Surging inflation and the cost of living crisis were the major headwinds of 2022. Many commentators forecasted a “transient” nature which would correct itself as supply and demand reached equilibrium. Indeed as Table 4 shows, forecasts this time last year were about 50% of actual peaks with EU inflation peaking at 10.6% and Ireland inflation at 9.4%. Energy spikes caused by the conflict make up about half of the overall impact. The good news is that inflation is easing, down to 8.2% in December, triggered by milder winters, energy storage and interest rate hikes. However, it is forecasted to remain elevated at around 6% in 2023 before falling to around 3% in 2024.

Table 5 summarises the YOY changes for some key inputs. Although the downward trend is positive, the reality is that a residual inflation impact remains with most input prices still elevated when compared to pre pandemic levels. In the absence of full price increase offsets, Manufacturing will see margins adversely impacted during 2023 before a correction in the price / cost equation in 2024.

Manufacturing Input Price Inflation

Table 4. EU & IE Inflation - Forecast and Actual



Source: Europa.eu

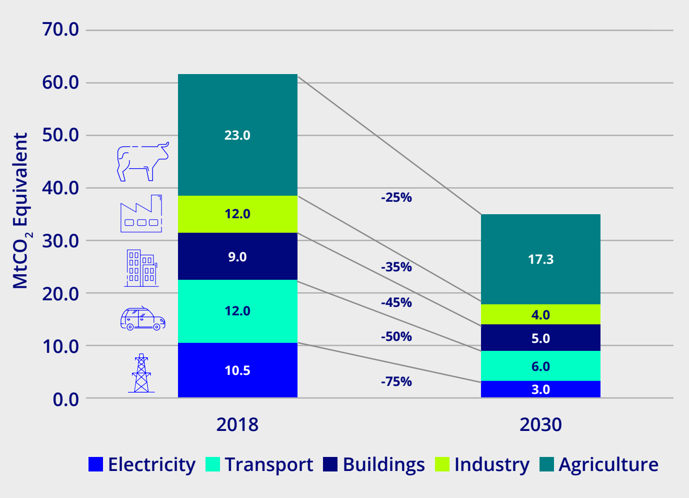
Table 5

Input/ Commodity	YOY Increase (10 January 2023)	Comment
Oil	-7.5%	Drop from $120 but elevated (+20%) at $74 compared to 2021 and pre Covid levels
Gas (TTF) European Index	-10.7%	Down from Aug. Peak of €330 but 3x higher than 2021
Steel	-11%	Dropping but +8% pre Covid
Aluminium	-21%	Drop but +25% pre Covid
Lithium	+60%	EVs and battery demand but dropping as supply catches up
Titanium	+27%	China & Ukraine Medical Devices
Shipping Costs (Statista)	-50%	2022 saw downward trend to $2,404 from peak $10,361 in Aug. 21but still up 60% on pre Covid levels of $1,500

Source: Tradingeconomics

ESG – 2023 the year when Carbon targets are mandated.

Table 6. CO_2 Emissions Reduction by Sector



Source: gov.ie press release MtCO$_2$=Million Tons Carbon Dioxide Equivalent

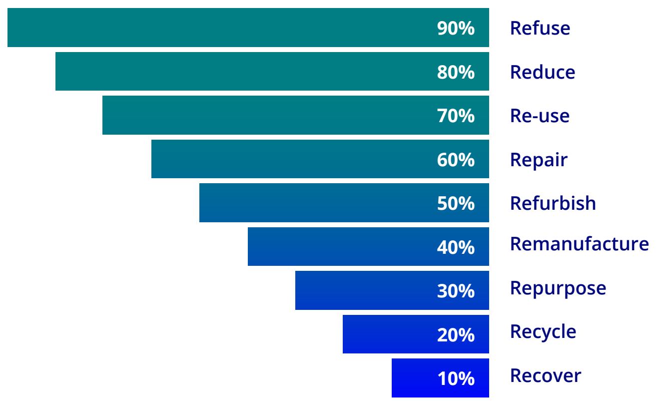
2023 is the year when compliance with carbon targets is no longer optional as it becomes a legal and regulatory requirement.

Carbon targets published on 28th July 2022 for Ireland are shown in Table 6. Manufacturing accounts for about 12% or 7 MtC0$_2$e of total emissions and the 2030 target is a reduction of 35% to 4 MtC0$_2$e. This will be achieved by a combination of carbon reducing activities including.

- Carbon neutral heating and energy sources
- Zero polluting emissions
- Electrification of internal logistics
- High energy efficient capital equipment
- Low carbon footprint supply chain (Scope 3 emissions)
- Waste management strategy
- Circular Economy strategy including a transition to 9Rs (Table 7)

Table 7. 9R's of Circularity

Circular Evolution = 50%

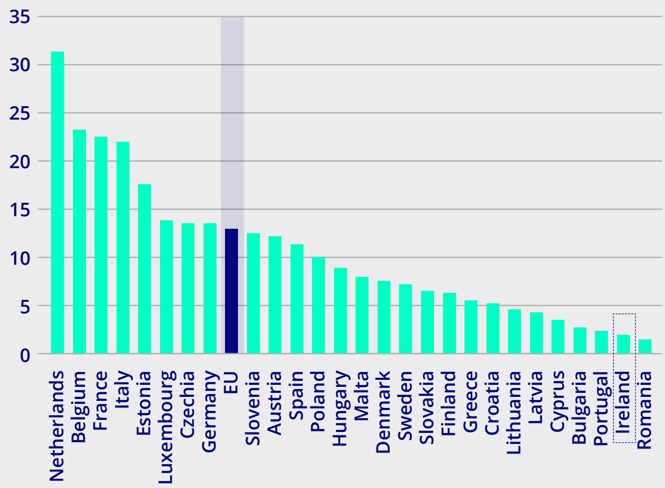


Source: 9Rs of Circular Economy

Table 7 highlights that maximum Green benefit is achieved when material is designed out of a product while minimum benefit is achieved from recycle and recover, as carbon effort for both is high relative to the gain.

Ireland Circular Economy Act became law in July 2022 and provides for the development of a Circular Economy (CE) strategy, a Fund, targets and a levy on certain single use items e.g. Paper Coffee Cups.

Table 8. Circular material use rate in the EU, 2020 (%)



Source: dataset: Statistics | Eurostat (europa.eu)

Table 8 shows that Circular Economy in Ireland accounts for less than 2% of materials consumed getting a second life when compared with the EU average of 12%. So the only way is up and represents a huge opportunity for Irish Manufacturing to pivot away from linear models and demonstrate to their customers the value of circularity.

Looking at the ESG/CE challenge through a lens of optimism and opportunity, it is important to note many positive developments to accelerate the Green Agenda.

- Over 2,250 Companies are signed up to the Science Based Targets Initiative (SBTi): 1/3 of Global Market Capitalisation.
- Companies with SBTs have collectively reduced carbon by 29% since 2015.
- Bank of Ireland joined this cohort in Dec. 2022 with its ESG goals validated by the SBTi
- The economics of renewable energy fuels continues to improve with 163 gigawatts added in 2021.
- Wind energy electricity accounted for 34% of needs in 2022, a saving of €2Bn for gas and will continue to scale subject to planning and grid constraints
- Triggered in part by energy inflation and security of supply, 2022 saw a noticeable uptick in Manufacturing embracing the Green Agenda:
  - Behavioural Changes – shift planning, switching off, energy cost awareness
  - CapEx projects in renewable energy sources – heat pumps and solar panels
  - Price increases to customers where possible
  - Avail of Government supports
  - Marketing their "Green credentials" with customers

In summary, while the targets remain daunting and challenging, and pace is still too slow, a lot is happening to move the needle. Recent research by UCC/Microsoft/ERI – "Assessing the Readiness of Irish Businesses" – a survey of 380 businesses, showed that only ***43% of businesses have a Sustainability Policy in place***. The more we can do in this decade, the higher the down payment will be toward net zero CO2 emissions by 2050.

Funding Activity in the Sector

- Bank of Ireland Business Banking 2022 drawdowns are ahead of 2021 levels reflecting the buoyant activity.
- Funding was dominated by working capital followed by M&A, MBO transactions and capital expenditure.
- With longer end-to-end cash conversion cycles due to extended supply chain lead times, businesses are in need of higher working capital requirements. BOI have supported a number of such cases with stocking loans where enterprises have no choice but to move from Just In Time models to Just In Case ones to safeguard continuity of supply and mitigate inflation risks.
- In subsectors, we saw positive developments in Green-related transactions, medical devices, pharma and technology.
- Strong sales, cash generation, have seen deposits rise. This combined with Negative Interest Rates (NIR) on deposits, has seen a lower appetite for funding across SMEs. Demand for funding continues to fall and is down 4 points (20% to 16% of firms) YOY according to a survey of 1,500 SMEs that was released in September 2022.

Manufacturing 2023 Outlook – Optimism, Unpredictability and at best Moderate Growth

Key Sector 2023 Trends

- Contraction. PMI < 50 likely to continue into Q2 as Orders Intake rate declines further
- Most Inputs' inflation including energy have eased but remain elevated impacting margins
- Threat of Stagflation – lower demand and rising prices
- The EU downturn is easing back, US recession forecast to be mild, China comeback forecast in H2
- Optimistic Ireland forecast is flat to moderate growth and dependent on subsector
- Pharma, Medtech, ICT and Modular Construction sectors remain strong
- Strong employment
- ESG opportunity as targets go mandatory

Business Sentiment and what is driving

- Cautious optimism coupled with a greater risk adversity
- Rising interest rates and recession clouds will amplify scrutiny on investment decisions.

Regulatory Changes

- Mandatory ESG targets & demand from MNCs will drive Green compliance across SMEs

In summary and in the absence of "black swan events", the outlook for 2023 is flat to moderate growth with H1 in contraction and a stronger H2 as major economies in the EU, US and China gain recovery momentum. Irish manufacturing fundamentals remain strong with high employment, and Green and digital opportunities to the fore.

Survey Roundup

Growth Outlook sentiment hangs in the balance of Geopolitics and Macroeconomic Volatility

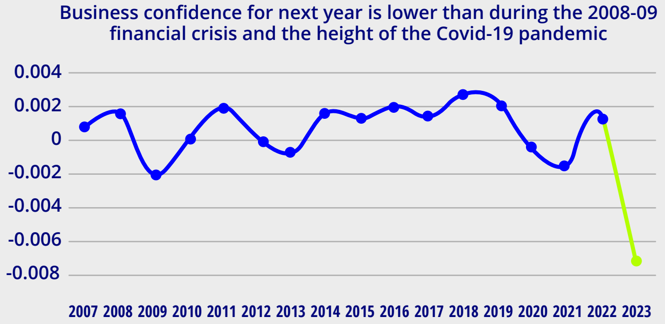
PWC's 26th Annual CEO 2023 survey of 4,410 CEOs underlines the global volatility and unpredictability we find ourselves in. Key findings are:

- 75% see declining growth in 2023 as an almost asymmetric result to 2022 when 73% saw improving growth.
- Reinvention is a strong theme with 40% believing that their business will not remain viable within a decade if they stay on current path.
- Manufacturing signal top three disruptors of, Changing customer demand, labour shortages, supply chain.
- Roughly 60% of respondents have progressed carbon reduction and greener innovations within their organisations, while 50% see the impact of same in higher costs and reconfigured supply chains.

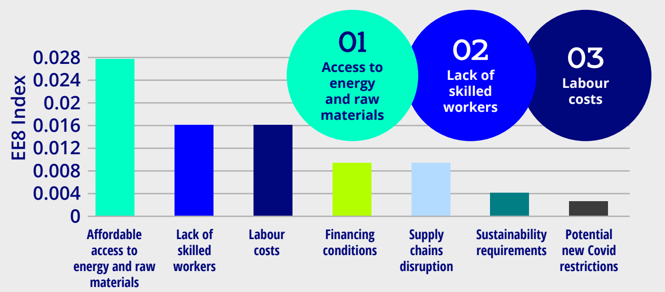
Eurochambres, the association of European Chambers of Commerce and Industry, published its survey EES2023 of 42,000 companies in 25 European countries. Results and top challenges are summarised in Table 9 and are in stark contrast to 2022 with business confidence for 2023 at a historic low. Within this negative aggregate result of 25 countries, it is important to note that Ireland results for business confidence are in the positive green zone as per Table 10.

In summary, the majority belief among respondents is things may get worse in 2023 before they get better.

Table 9. Business confidence for 2023

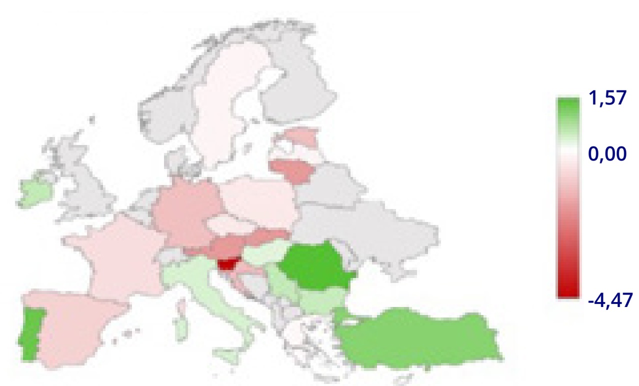


Challenges for 2023



Source: Eurochambres.eu

Table 10. Business Confidence

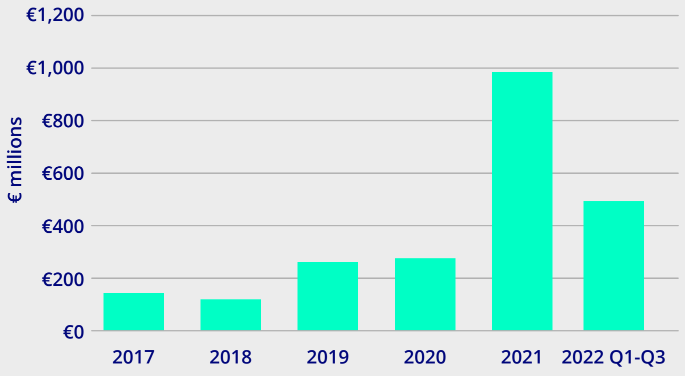


Source: Eurochambres.eu

Industrial Property Demand

CBRE in its latest research, reports a strong year in 2022, albeit lower than the record 2021 for Industrial and Logistics property, driven by strong demand and lack of supply.

Table 11. Ireland Industrial Investment 2017-2022 YTD



Source: CBRE

Tailwinds 2023

- Irish Manufacturing is hugely resilient with enormous positive dividends gained by shocks of COVID-19, Brexit and Ukraine serving it well to navigate the uncertainty of 2023.
- SMEs have benefited from MNCs reconfiguring their supply chains to local and more secure partners
- SMEs have benefited from vertical integration changes in response to supply chain headwinds.
- The shocks of energy inflation and shortages are accelerating conversion to Greener alternatives.
- Some inflation impacts are being successfully negotiated with customers and headline value is easing
- GDP outlook at 3.2% with the EU forecast at just 0.3%

Headwinds 2022

- Supply chain pain has moderated but requires continuous resilience improvements
- Input costs remain high and are putting margins under pressure
- Labour shortages and competition for talent in a tight market continues
- Stronger threat of recession in trading partner countries and with that risk of contagion
- Manufacturing SMEs are likely to be very busy again in 2023 but hopefully with more bandwidth to spend on important Green and digital agendas

Conor Magee
conor.magee@boi.com
087 227 9830

Conor joined Bank of Ireland in 2021. He is an accomplished senior executive and brings with him significant business and manufacturing experience gained both In Ireland and internationally. He has a strong track record of business plan delivery, scaling and turnaround and is an expert practitioner in Lean thinking, supply chain best practice and cost management in the Manufacturing sector.

Conor held various senior positions in Cargotec, a global manufacturer of Industrial Equipment for Cargo handling and transport having worked in Ireland, China and Finland.

Prior to Cargotec, Conor worked in the automotive sector with Iralco Automotive and Magna Donnelly in Ireland and Opel AG in Germany. He holds an MBA from Michael Smurfit School of Business, a Mechanical Engineering Degree from UCD, and a Diploma in Business Coaching from Smurfit Executive Development.

Sources: CSO, Gov.ie, IBEC, Bank of Ireland, The Economist, S&P Global, Irish Times, Guardian, Eurochambres, PWC, CBRE, Europa.eu, statista, UCC, SBTi, wemeanbusinesscoalition, electrek, tradingeconomics, ECB, IDA, Enterprise Ireland, Irish Manufacturing Research, Circuléire

Retail Convenience
2022 Insights / Outlook 2023

Grocery/Convenience sector continues to perform strongly. Retailers navigating a turbulent economic environment linked to inflation, energy costs and fluctuating consumer sentiment.

Retail Convenience: 2022 Review

Summary

- **Robust performance:** Robust performance delivered by the sector in 2022. Shopping behaviour and frequency patterns returned to more normalised trends with sales continuing to surpass pre-pandemic levels.
- **Energt costs:** Revamp/refurbishment activity focused on energy efficiency/reducing carbon footprint accelerated in 2022 driven by rising energy costs. Bank of Ireland continues to actively engage and support grocery retailers with their investment plans.

2022 Key Trends

- Strong growth in take-home grocery sales continued. Inflation levels across the sector hit unprecedented levels (15.4%) linked to post Covid-19 supply and Ukraine war issues.[1]
- Dunnes Stores continues to hold the number 1 position in respect of grocery market share driven by a particularly strong performance in the wider Dublin region. Supervalu and Tesco have maintained strong market share with Tesco benefiting from increased frequency of consumer engagement – not just being used for the "big shop" in 2022. Aldi and Lidl continue to solidify their strong foothold in the Irish market.
- The large supermarket operators have been proactive in addressing cost of living concerns with targeted ad campaigns and voucher offers being strongly promoted. An expanded own-brand offering has also resonated with consumers with c10% growth delivered across unbranded lines in November/December.[2]
- Margin growth and preservation have become an imperative for retailers linked to an increased cost framework driven by personnel, insurance and energy overheads.

Sector Developments – Key Numbers

€25m Investment from Musgrave in their sustainable stores strategy.[3]

€52m The value of in-store contactless payments transacted per day - representing the highest level since data series commenced in 2016 Contactless compatibility now key for retail community.[4]

9 Number of Joyce group stores re-branded to Tesco.[5]

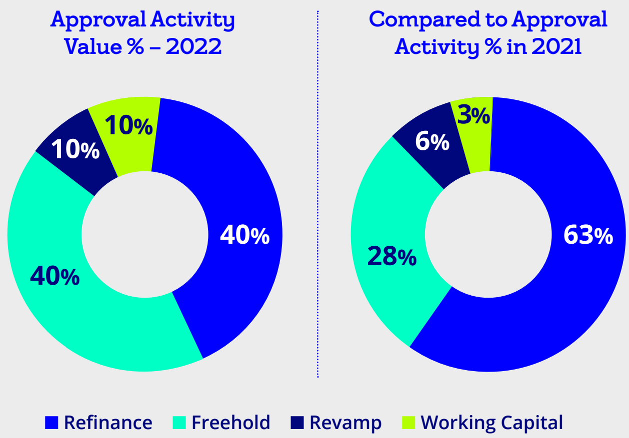
5 Number of Applegreen trial stores stocking M&S products in a new partnership launched in 2022.[6]

[1] Kantar Grocery market share – December 2022
[2] Kantar grocery market share – December 2022
[3] Musgrave Group press release – June 2022
[4] Banking & Payments Federation of Ireland – December 2022
[5] Tesco press release – November 2022
[6] Applegreen press release – May 2022

Key Activity in the Sector in 2022

- Whilst shopping patterns reverted to more normalised frequency trends in 2022 – the impact of an extended period of grocery inflation (and associated cost of living) on consumer behaviour will be monitored closely in Q1 2023.
- Retailers are continuing to implement pragmatic succession planning structures to ensure that appropriate long-term value is delivered from their business. COVID-19 has been a catalyst for some retailers to investigate future options in respect of both ownership and operational models.
- A strong pipeline of store purchase and associated revamp activity has been generated in 2022. Progressive retailers continue to recognise that in-store investment is necessary to maintain customer engagement and loyalty. Rising energy costs have accelerated the focus on energy efficient systems/ equipment installation and upgrade.

Approval Activity Value %



Bank of Ireland business banking data

Sector Developments: Investment & Economic

- Supervalu, Lidl, Aldi, Tesco and Dunnes all announced new store openings/significant store revamps in 2022 across all regions supporting job creation and the wider Irish business eco-system.
- The increased cost and regulatory burden presented by the proposed living wage structure, pension auto-enrolment, spiraling energy overheads and insurance in a competitive environment has led to an up weighted focus on margin development/preservation from retailers, wholesalers and their advisors
- Consolidation and cross-sectoral partnerships remains a feature of the wider Irish grocery/convenience/forecourt market. Tesco integrating nine Joyce group stores within their network, Musgrave purchasing Italicatessen, McCambridges and the Caulfield-McCarthy group and Applegreen partnering exclusively with Marks & Spencers across five trial forecourt outlets just a flavour of the transaction activity witnessed in 2022.
- The de-carbonisation of end to end operations remains a key focus for leading operators linked to supplier, Government and consumer expectations/requirements. Multi-million euro investments linked to improving energy efficiency profile across the fleet, logistics and store network was a feature of sector announcements/strategies in 2022.

**Market activity focused on store investment and consolidation to continue within the sector.
Margin preservation and environmentally friendly/energy saving initiatives to retain a key focus for 2023.**

Retail Convenience 2023 Outlook

2023 Key Numbers

€100m Investment indented by Maxol Group across strategic forecourt locations in Ireland in 2023-2027.[7]

€73m Targeted investment ear-marked by Aldi for new store development in the Dublin region.[8]

€11.30 Minimum wage per hour from 1st January 2023 – an increase of 80c and the first step in the phased introduction of the Living wage pre 2026.[9]

10 Number of bio-methane trucks added to BWG logistics fleet delivering 90% emission reduction equating to a carbon saving of 840 tonnes per annum.[10]

2023 Retail Convenience Outlook

- **Robust Outlook:** Overall a resilient sector to economic shocks; Strong sales performance to continue but increased focus on margin preservation and cost management required linked to an extended inflationary environment.
- **Funding Activity:** Strong active pipeline of store purchase and associated revamp proposals– retailers recognise that customer experience/excellent standards will be key to attract and retain market share.
- **Investment/Consolidation:** Increased investment in partnership agreements and further consolidation of the market (especially forecourt/wholesaler sub-sectors) expected to continue in 2023.

Market

- In a competitive labour market – sourcing and retaining the best people is vital to sustain a retail business. A structured employee development plan that incorporates role variety, up-skill opportunities and competitive remuneration needs to be embedded within the culture of the business. The smart use of digital/automation tools can deliver the dual goal of increased efficiency and an improved working environment.
- Energy costs need to be addressed proactively by the wider sector; collective affinity schemes negotiated, investment in energy efficient equipment/processes and sector lobbying for sustained Government support all expected/required in 2023.
- Significant revamp programme will continue to be rolled out in 2023 nationwide by leading grocery operators as the ever more discerning consumer seeks excellence in store standards. Movement on revamp costs linked to fluctuating material supply base to be monitored closely.
- Detailed analysis pre and post revamp will be an imperative to ensure that a maximum return on investment is delivered via sales mix improvement, margin growth and cost saving. The "localisation" trend will continue with store revamps taking a more bespoke, community focused approach.
- City centre stores will need to proactively assess all aspects of their business plan: target customer demographic, margin development, shrinkage, cost base, property costs etc. They will need to focus both on city centre dwellers and city centre employees – partner with foodservice/restaurants and provide effective delivery options etc to engage a new recurring customer base.
- Corporate social responsibility linked to sustainable and environmentally friendly in-store activities will be a key area of focus for all retailers – energy efficient equipment, elimination of single-use plastic, improved recycling facilities and reduction of food waste. This will enable an improved cost base whilst meeting consumer expectations in respect of ethical trading. The proposed roll-out of the deposit return scheme and "latte levy" in 2023 will be monitored with interest.
- Consolidation is expected to remain a feature of the market with wholesalers, fuel brands and multi-store retailers expanding their network and footprint across the sector.
- As consumers seek cheaper alternatives across some product lines, all leading operators recognise that a strong, diversified own-brand offering will be critical to maintain customer engagement as the inflationary cycle continues.

[7] Maxol Group – press release November 2022
[8] Aldi press release – December 2022
[9] Department of Enterprise announcement - September 2022
[10] BWG press release December 2022

Funding Activity

- Store purchase strategies will continue to develop in 2023. COVID-19 has been the catalyst for increased levels of succession planning/retirement which is driving this activity.
- Revamp funding to continue with a particular focus on energy efficient equipment and processes.
- Refinance activity to remain a feature of the market linked to loan book purchasers seeking to deleverage.

Bank of Ireland

- In Bank of Ireland we recognise that we have a unique opportunity to support our customers and to enable Irish businesses and the communities we jointly serve to thrive.
- Our proven financial capabilities and appetite, combined with comprehensive sector expertise, provide us with a strong platform to meet the funding requirements of Irish retailers.
- We understand the investment cycle, including the need for regular expenditure to maintain growth and profitability in this dynamic sector, and we have a strong appetite to support progressive, innovative retailers in the further development of their businesses in 2023.

Owen Clifford

owen.clifford@boi.com
087 907 9002

Owen Clifford is Head of the Retail sector within Bank of Ireland since 2015. He is responsible for the continuing development of the Bank's strategy in this key area and has actively supported leading retailers and stakeholders in the sector nationwide to grow and develop their business in a progressive manner.

Owen brings extensive industry knowledge and experience to this role, having worked in the retail sector with Musgrave Retail Partners Ireland where his role involved supporting independent retailers to maximise their profitability and to develop long-term, sustainable business models.

Owen holds a first class honours degree in Law and Accounting from the University of Limerick and is a Fellow of the Institute of Chartered Accountants Ireland and an Associate of the Irish Taxation Institute.

Technology, Media and Telecoms (TMT) 2022 Insights and 2023 Outlook

Ireland's TMT sector continued to perform strongly throughout 2022 as expansion of the digital economy continues to create opportunity and boost demand across each of the subsectors. Despite cost pressures and geopolitical uncertainty, shortage of skilled talent continued to present the greatest challenge for many businesses.

TMT 2022 Review:

Summary

Technology

Acceleration of technology and digitisation continued across every industry sector, boosting demand for many different technology solutions and services from various providers. For example, we have seen increasing demand from many retail businesses adopting an omni-channel business model. This has led to a requirement for solutions such as expanded ecommerce capabilities, automation and customer relationship management tools. On the supply side, shortage of available talent was again the most challenging aspect, with some customers resorting to hiring talent from Brazil and South Africa to help meet these demands.

Media

Ireland's creative sector also continued its strong performance of recent years. The independent film An Cailín Ciúin[1], made history by being the first Irish-language film to be nominated for the Oscars® in the Best International Feature Film category. This multi-award-winning movie also grossed over €1 million at the box office, which is an extraordinary achievement for an independent film. Banshees of Inisherin too, having been filmed on Inis Mór and Achill Island is not only being tipped as a strong contender for the Oscars®, but is already causing a stir among fans wanting to visit the film locations, which will have wider benefits for the hospitality and tourism sector.

Telecoms

There was also good news for consumers following ComReg's[2] publication of the winners of the main stage of the Multi Band Spectrum Award (MBSA2) across four valuable spectrum bands. The significance of this announcement is that these bands are suitable for providing 5G and will support more widespread mobile connectivity, while increasing network capacity. The winning bidders were Eir, Imagine, Three and Vodafone. The licences are granted for 19 years, providing operators with the certainty in making long-term investment decisions to support the rollout of 5G services across Ireland. Overall, this is expected to lead to more competition in the market which is great news for consumers and the awarding of these licences was estimated to be worth circa €448 million to the exchequer, so good news all round.

2022 Key Sector Trends

'Big-tech' job losses: The spate of recent job losses over Q4 by 'big-tech' has served to create anxiety as to whether this can be seen as a correction or a collapse in the sector. It's important to state that these losses need to be seen in context. Many global software/technology firms sought to shore up their recruitment drive to boost their headcount at a time of unprecedented demand, largely created by the pandemic. This is now looking more like a correction, following many years of continuous growth. For the most part it may see these businesses being back to where they were at the beginning of 2022, in terms of total headcount and simply represents a 'levelling off'.

Tech-enabled businesses becoming more ubiquitous: Despite the job losses referred to above, indigenous businesses appear to be bucking the trend. Recent data published by Enterprise Ireland confirmed net jobs increased by 5% in 2022. The data showed an increase in employment across Ireland's indigenous Technology and Services sector grew by 8% last year. **'High-Tech'** construction and housing grew by 6%; **Digital Technology** (9%), Climate, Sustainability and **'Agritech'** by 13% and **'Fintech'**, Financial and Business Services by 6%. While one empathises with anyone that may have lost their job recently, many coming from a technology sector background will invariably have very transferrable skills, allowing them to assimilate into various different roles. Ryanair recently announced 150 technology roles, as well as EY who are seeking to hire 900, many of which are technology related roles. Further evidence is demonstrating, increasingly, how even traditional businesses are becoming more technology enabled.

Customers demanding a 'one-stop-shop' from technology providers: There was a noticeable increase in market demand over the course of last year to reduce the number of technology suppliers a business might have. Rather than having different suppliers for their outsourced information technology (IT) managed services and cyber-security protection as well as hardware, customers instead have been seeking to slim down the number of providers to just one or two suppliers. The aim of which was to reduce risk and to ensure they had more robust protection of their networks, systems and applications while limiting their potential exposure to cyber threats. Demand for one-stop-shop providers is also feeding into the recent consolidation trend where various managed service providers have sought to acquire operators with complementary service offerings to broader their service suite.

Sector Developments - Key Numbers

1st[4]	Buymie, named as the fastest growing technology company in Deloitte Technology Fast 50 Technology Awards for 2022.
34%[5]	Increase in VC funding into Irish technology companies in Q3, 2022.
29%[6]	TMT sector was the dominant sector, in terms of value, within the market of total Irish M&A during the first half of the year.
$12.8m[7]	Series A funding round closed by Vaultree; a Cork based provider of encryption software.
150[8]	The number of technology roles being created by Ryanair to help deliver cutting edge projects, emerging technologies and driving digital transformation.

Key activity in the Sector:

Tech sector valuations: as we moved through 2022, we began to see more realistic expectations emerging following several years of record valuations being achieved for many Irish businesses. Investors have become more focused on businesses that are EBITDA positive or can demonstrate a pathway to profitability. Growth for growth's sake is no longer seen as the barometer of success it once was, as access to capital has got tighter. Rather an established differentiated position with a realistic addressable market opportunity and recurring revenue are now in sharp focus as determinants of an investible proposition and a sustainable business.

Expansion of film/tv studio infrastructure: Tara Studios, slated to be developed at Borleagh Manor in County Wexford, was also given the go-ahead by An Bord Pleanála. This permission cleared the way for construction to commence on what is expected to be one of the largest film production facilities in Ireland, further boosting the country's growing screen industry infrastructure. It is also expected to have broader positive implications for the local economy in terms of employment, hospitality and potential tourism.

Collapse of FTX and what it means for crypto: the news in early November that Binance were pulling out of the deal to acquire FTX set in train a calamitous chain of events. It wiped out more than $230 billion[9] value out of the crypto economy and shattered investor confidence in cryptocurrencies in the process. The crypto and indeed world-wide financial community has been left pondering how a cryptocurrency exchange platform that managed to rise to the top, (securing $400m in investment and a valuation of $32 billion), could unravel so spectacularly and slip to the bottom, all within three years of having been founded. As more evidence emerges of how FTX spent lots of the money it had raised, paying $210m for a naming deal with the major esports brand TSM along with various others, it seems corporate governance practices were either not in place or not being adhered to. Total market capitalisation of the global cryptocurrency market peaked at $2.9 trillion in November 2021. At the end of 2022, it stood at just $798 billion[10], recording a loss of over $2.1 trillion. With little or no regulation or security for investors, it is perhaps no wonder that some have branded bitcoin and cryptocurrency "the biggest ponzi scheme in human history"[11]. Where to from here? It's probably high time that some rules were created for crypto, so that assets are properly regulated and protected.

Recent investment in the sector:

Last year saw the announcement by Dublin-based Delta Partners that it had launched its new venture capital fund which aimed to invest into 30+ technology start-ups at seed and early-stage in Ireland. Bank of Ireland and Enterprise Ireland are cornerstone investors in this fund along with Fexco and several family offices. Investments so far include:

- **Eppione[12]:** a Dublin-based global provider of personalised and localised employee benefits, secured €2.5M of additional investment, led by Delta Partners.
- **ProMotion[13]:** a Dublin-based consumer rewards company closed a €725,000 pre-seed round with Laidlaw Scholars Venture and Delta Partners. ProMotion Rewards allows consumers to photograph their receipts, complete surveys and enter competitions via a dedicated app, earning points when they participate.
- **Dimply[14]:** a Dublin-based Fintech closed a seed round with participation from Delta Partners. Dimply have created a platform that empowers financial services customers to build an open banking and deliver rich, personalised experiences, based on actionable data insights.
- **NoFrixion[15]:** a Dublin-based Fintech that is revolutionising business payments, closed a €3.6 million funding round led by Delta Partners and Middlegame Ventures and were joined by Furthr VC. Their mission is to enable money to move instantly – to make it easy to pay and get paid using a proven process called "Experiential Payments".
- **LegitFit[16]:** a Cork-based provider of management software for gym providers and fitness studios, closed a €1 million seed round, led by Delta Partners. LegitFit are on a mission to empower fitness entrepreneurs.
- **VisionR[17]:** A Dublin-based retail insights company secured €1.5m in a funding round led by Delta Partners, with backing by Movidius co-founder Sean Mitchell, Amici Ventures and Vincent Nolan. The company aims to give 'online insights' to clients in the offline retail industry.
- **Gigable:** A Kerry- and Dublin-based closed a round of €1.5m led by Delta Partners. The company aims to supply gig workers to hospitality and security companies.

TMT 2023 Outlook

Despite the geopolitical, inflation and energy crises over recent months we embark upon 2023 with an optimistic mood, with significant opportunity on the horizon. Digitisation will continue as ESG comes more into focus. Existing and new, emerging technologies will provide the tools for companies of every size and sector to transform their business models to become more efficient and embrace the green agenda.

2023 Key Numbers:

$1tn[18] Expected global spending on goods and services via social media platforms in 2023.

€37.7m[19] Funding has been allocated to Screen Ireland for 2023.

$600bn[20] Gartner forecasted worldwide spend on public cloud end-user to reach in 2023.

€1.6bn[21] Amount of funding announced by the European Commission for innovators and scientists in the EU to scale up breakthrough technologies and create new markets.

Technology

Looking ahead for 2023, business customers across the sector remain optimistic for the year. While cognisant of a potential slowdown in the economy that could have a knock-on effect in terms of procurement/acquisition of software and IT services, the mood is positive. The impact of various shocks of recent years caused businesses to adopt a tighter cash flow position, coupled with lean principles. As demand increased significantly for various technologies and applications, they have tended to reap the benefits, borne out by strong cash balances for many companies. Much of the technologies now adopted in various sectors would not be seen as discretionary spend. Instead they are seen as critical to a business's operations and unlikely to be suspended/replaced in the event of a recession, insulating providers somewhat against a downturn.

From a regulatory standpoint, data privacy will strongly figure this year. May 25th will see the fifth anniversary since GDPR came into force. Businesses should be well informed by now regarding compliance measures and obligations. Large fines that have been imposed on 'big-tech' may well be interpreted as a warning to SME's too, to get their houses in order as we are likely to see more proactive activity regarding GDPR compliance coming from the Data Protection Commissioner's (DPC) office.

Media

Advertising spending in the Irish market is expected to grow by around 6% to €1.7bn in 2023 according to Magna Global[22]. Digital advertising accounted for 70% of spend last year and is expected to grow by 15% this year, across various platforms such as YouTube and TikTok. Print media advertising was down 2% last year, continuing the trend of recent years and looking ever more ominous. Ireland's Screen industry continues to go from success to success, with increased government support and new funding to support gaming, animation and immersive storytelling subsectors to support the further growth of Ireland's creative industry.

Telecoms

We may see cost of living pressure impacting on customers this year that could result in a change in attitudes towards spending on connectivity and content, which could lead to a significant increase in customers switching providers. As cyber threats are becoming more prolific, down to the level of the individual, customers will be looking to their service providers to do more to ensure safety and security of their networks to ensure cyber security is top of their agenda. Given the amount of consolidation that has taken place over recent years, we are probably going to see telecom providers taking a more proactive approach to new product development for enterprise customers in the areas of cloud services and the Internet of Things (IoT).

Market

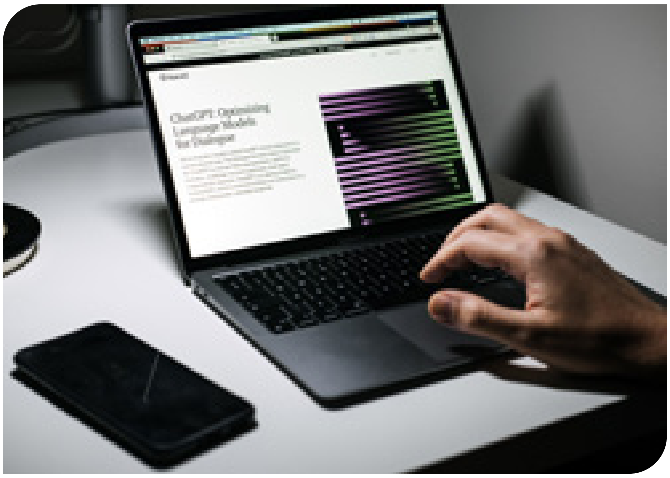
ChatGPT – an in-depth review.

Having only been launched in late November, it is fair to say that the internet has 'lit up' in recent weeks with talk of this latest text-generating technology. Within a week of its launch, it had gathered over one million registered users. It is being heralded as an artificial intelligence (AI) revolution that could solve lots of our problems and answer many questions. Some are even going as far as suggesting that Google[23] could be put out of business. Why? The difference is Google will provide you with the lists of websites that match your inquiry, ChatGPT will answer your specific question and provide specific content, lists or even instructions on how-to complete a task.

So, what is ChatGPT (v3.5) and how does it work? It is a "chatbot" (short for chat robot) that has been trained to provide human-like answers to everyday questions and problems, by modelling previously established texts created by humans in order to guide the model towards future behaviour. It uses massive amounts of data and information taken from numerous sources from the internet, including internet forums and discussions, to help ChatGPT learn and attain a conversational/human style of responding about endless topics. In essence it has been trained to understand what humans mean when they ask questions.

It has a user-friendly interface, making it simple for someone to pose a question, using natural, everyday language and the chatbot will respond in a conversational style with the answer. Using machine learning, the chatbot then remembers the thread of the conversation and uses previous questions and answers to inform its next responses to inquiries and interactions as it evolves over time.

The purpose of its invention was to understand how humans ask questions and provide truthful and helpful, harmless answers. To this end, it has been programmed specifically to not provide answers to toxic/harmful questions. That said, the creators of this technology, OpenAI (co-founded by Elon Musk), acknowledge that it will sometimes respond to harmful instructions or display biased behaviour. They have deployed the Moderation API to try and defend against certain types of unsafe content, however given it is still in its infancy they concede that they expect to have some false negatives and positives for the moment.



How could businesses potentially use ChatGPT and what for? It can be used in any number of ways where human conversations take place, offering potentially infinite uses for the technology, e.g., hiring and training staff, personalised shopping/customer experiences and even streamlining of processes. Some instances of its use include:

- **Customer care:** conversational type, automated responses, where one receives a more personalised reply to their inquiry.
- **Journalism:** creation of content for news articles, reports and research.
- **Branding and marketing:** creation of personalised, engaging content, harnessing market research, tailored to specific market niches and segments.
- **Personal fitness nutrition:** creation of weekly training programs, including exercises, reps, sets and specific advice on when to warm up and cool down and associated meal plans based on the individual.

Caveat: the capabilities and potential of this technology can perhaps appear scary, as it is giving rise to the fear that this will lead to job roles being redefined/lost much sooner. While this is revolutionary technology, it does have limitations as it can only provide answers based on the data it has been trained on. OpenAI acknowledge the technology has limited knowledge of events after 2021. Similarly, it cannot handle nuanced, complex, or sensitive inquiries and does not have the ability to think or act creatively. There are lots of potential ethical implications too as it could result in the spread of fake news or could potentially be used to generate false or misleading information. Academics too recently tested the technology and produced responses to exam questions they say would have resulted in full marks if they were submitted by an undergraduate.

This current model was trained on text. Future models will likely be trained on data from other means, such as images, video and even audio recordings and will enable other broader and diverse capabilities and even greater opportunities. Thus, we could see different versions of ChatGPT trained with data from various different business verticals, providing answers nuanced to different industry problems. The potential is frightening and exciting in equal measure and one wonders, could this be the beginning of the commoditisation of AI for the masses?

For now, the technology is free, however it has been well documented that its creators have referred to the 'eye-watering' computing costs, with some estimates of up to $3 million per day. Inevitably, enterprise customers will be charged for this before too long.

Cyber Hygiene

Looking ahead, given the proliferation of attacks, there is a need for SMEs and organisations of every kind to adopt a step-change in terms of focus on cyber-security training and protection. Businesses will need to take a more proactive approach, where appropriate, to enhancing the security of their supply-chain. More than 85% of attacks start with a human error, thus requiring continuous, ongoing training by employers. According to TechTarget[24] we will see an increase in investment to improve enterprise security posture. This will likely provide further growth opportunities for cybersecurity managed services providers as business seek to shore up security and most importantly have robust security to guard company and customer data.

ESG and Digitisation

As more clarity begins to emerge in relation to Sustainable Development Goals, it is inevitable that digitisation will play a central role in helping all industry sectors meet these goals. Technologies such as AI, Machine Learning and Internet of Things, will become more essential in the day-to-day operations of many industry sectors, specifically in relation to the optimisation of operations. Digital transformation will also be used to mitigate problems, such as, helping with monitoring, and associated attempts to reduce carbon emissions. Digital transformation could also provide solutions around the health and safety of employees. Data and the management of same will come into sharp focus as manual processes are no longer fit for purpose. Businesses will need to ensure they are digitising all of their data, enabling transformation to a more efficient, accurate, and consistent system that reduces human error, or a single point of failure. Operational costs can be reduced through digitisation, while removing information silos as data is moved to cloud instead of traditional storage. Having the appropriate technology will help businesses in how they gather ESG data and associated reporting requirements in the time ahead.

Funding activity

Digital transformation continued across every sector in 2022 and we expect it will continue to provide growth and expansion opportunities for our technology customers servicing those markets. We look forward to supporting these established businesses as they look to consolidate, grow scale and increase their market position. Over the last year there has been a marked increase in activity. Businesses that have matured in recent years are now seeking to refinance from alternative lenders to reduce their cost of capital and we look forward to working with other similar businesses through the coming year. Likewise, we have supported both existing and new customers investing in their businesses to adequately resource their operations in order to capitalise on new opportunities and grow new markets.

Bank of Ireland

In Bank of Ireland, we recognise that we have a unique opportunity to support our customers, help enable Irish businesses and support the communities we jointly serve to thrive. Our understanding and comprehensive sector expertise provide us with a strong platform to meet the funding requirements of Irish Technology, Media, and Telecoms companies. We have an appreciation of the different types of businesses, revenue and growth models. We are delighted to continue to provide various facilities to some of Ireland's best-known TMT brands. By having a designated TMT team, we can deliver on our ambition to support Ireland's indigenous Technology Sector, with the experience, the knowledge and most of all an understanding of your business.

Talk to our Technology, Media & Telecoms Team today, to see how we can help you grow your business.
Email: TechnologyMediaTelecoms@boi.com

Paul Swift
paul.swift@boi.com
087 251 6681

Paul joined Bank of Ireland in 2019 as Head of Technology. He has a background in technology transfer having previously worked at the ADAPT Centre at Trinity College, Dublin, and the Walton Institute at Southeast Technology University where he led commercialisation activities, while also mentoring and supporting new venture creation and spinouts. He managed the Consumer Technology portfolio for IDA Ireland across New England and Eastern Canada. He also led corporate business development activity for Eishtec (an Irish start-up acquired by Infosys) across the North American market. He holds a Master of Business in International Management from Southeast Technology University.

Sources:
1 *Screen Ireland – October 2022*
2 *ComReg – December 2022*
3 *Enterprise Ireland – January 2023*
4 *Deloitte Fast 50 2022*
5 *IVCA – November 2022*
6 *William Fry, M&A Review Half-Year 2022*
7 *Vaultree – December 2022*
8 *Ryanair – November 2022*
9 *Bitcoin – November 2022*
10 *Forbes – January 2023*
11 *Forbes – July 2022*
12 *Delta Partners – November 2022*
13 *Delta Partners – October 2022*
14 *Delta Partners – October 2022*
15 *Delta Partners – September 2022*
16 *Delta Partners – September 2022*
17 *Delta Partners – May 2022*
18 *Deloitte – December 2022*
19 *Screen Ireland -*
20 *Gartner – October 2022*
21 *European Commission – December 2022*
22 *IPG Mediabrands – December 2022*
23 *https://finance.yahoo.com/news/google-done-world-most-powerful-192948570.html*
24 *TechTarget – Enterprise Strategy Group's (ESG) "2023 Technology Spending Intentions Survey"*

Motor Sector Insights and Outlook

The "Car Parc"

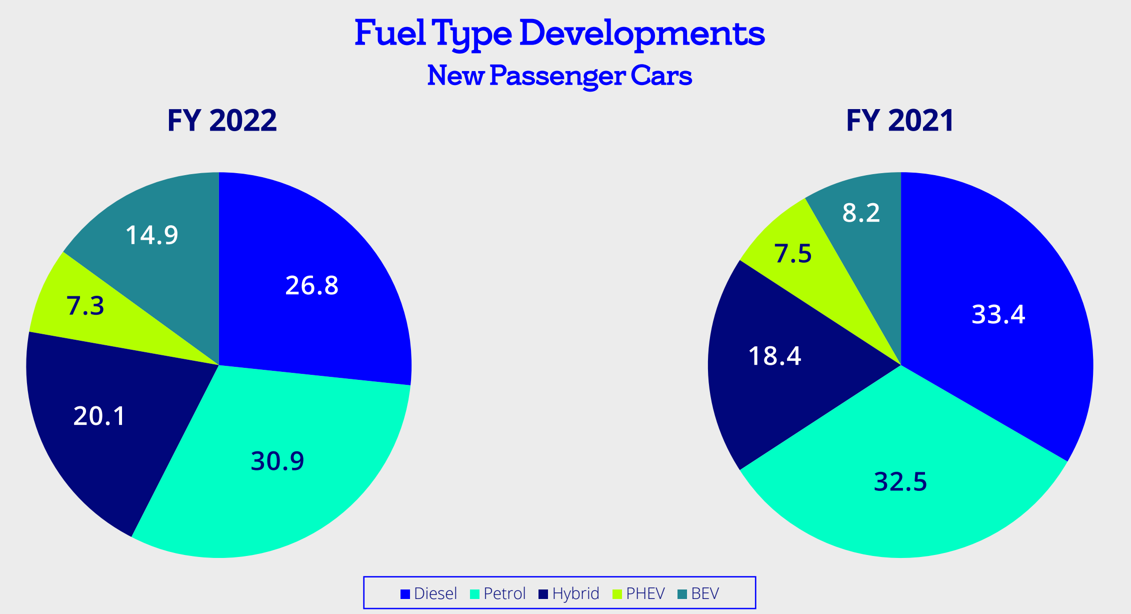
How many cars are now on our roads? Back in 1915 there were about 10,000 cars registered in Ireland. 100 years later, the CSO recorded 1.9m licenced cars in Ireland. By 2021, there were 2.2m passenger cars licenced for use. These 2.2m cars are referred to in the sector as the size of the "parc". In addition, there are 385k commercial vehicles, 84k tractors, 47k motorcycles and 183k designated as 'other' on our roads, bringing the total vehicle parc to 2.9m units. 80% of cars in the parc are aged 4 years old and older and 63% are aged 6 years old and older. The average age of passenger cars on Irish roads is 9 years and continues to age and this trend is mirrored in most countries across Europe. Full details can be found in the Irish Bulletin of Vehicle and Driver Statistics 2021 (annual publication) issued by the Department of Transport.

ECV Demand Accelerating

Much has changed in the sector since 1915 and the industry is now transitioning to electric vehicles. As recently as 2015, the combined share of electric vehicles and hybrids was less than 2% of new car sales in Ireland. The recent take up of electric vehicles has further accelerated with the combined share of electrically chargeable vehicles (ECV = BEV + PHEV i.e. those with a plug attached) representing 22% of new car sales in 2022. Combined sales of ECV's and Hybrids (no plug) now account for 42% of new cars registered annually. BEV's alone account for almost 15%. Subject to supply improving, the sector expects BEV sales to increase to 20% of new car sales in 2023. Current forecasts suggest BEV sales here will account for 35% of new car sales by 2025.

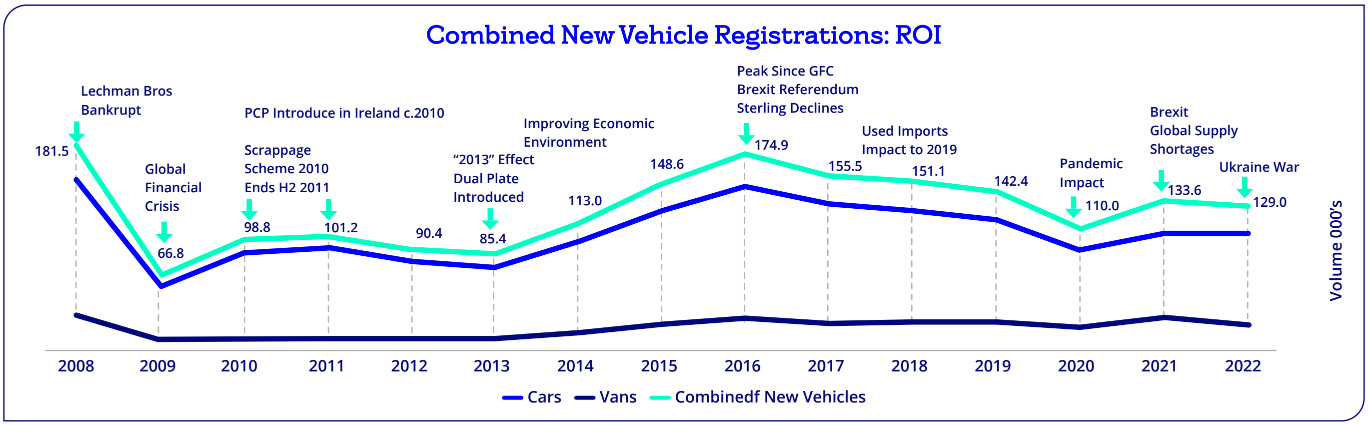
Diesel Still Popular

Declining from a peak of over 70% in 2014, diesel share of new car sales represented 27% of new cars sold in 2022. Comparably, new diesel cars represent <10% of new car sales in the UK in 2022. Ireland ranks highest in Europe in terms of diesel share of new cars sold as diesel continues to be a popular choice in rural areas. Consumer demand is evolving and transitioning continues gradually.



BEV: Battery Electric Vehicle. PHEV: Plug-in Hybrid Electric. Petrol includes LPG

FY = Full Year



Market Pre-Pandemic

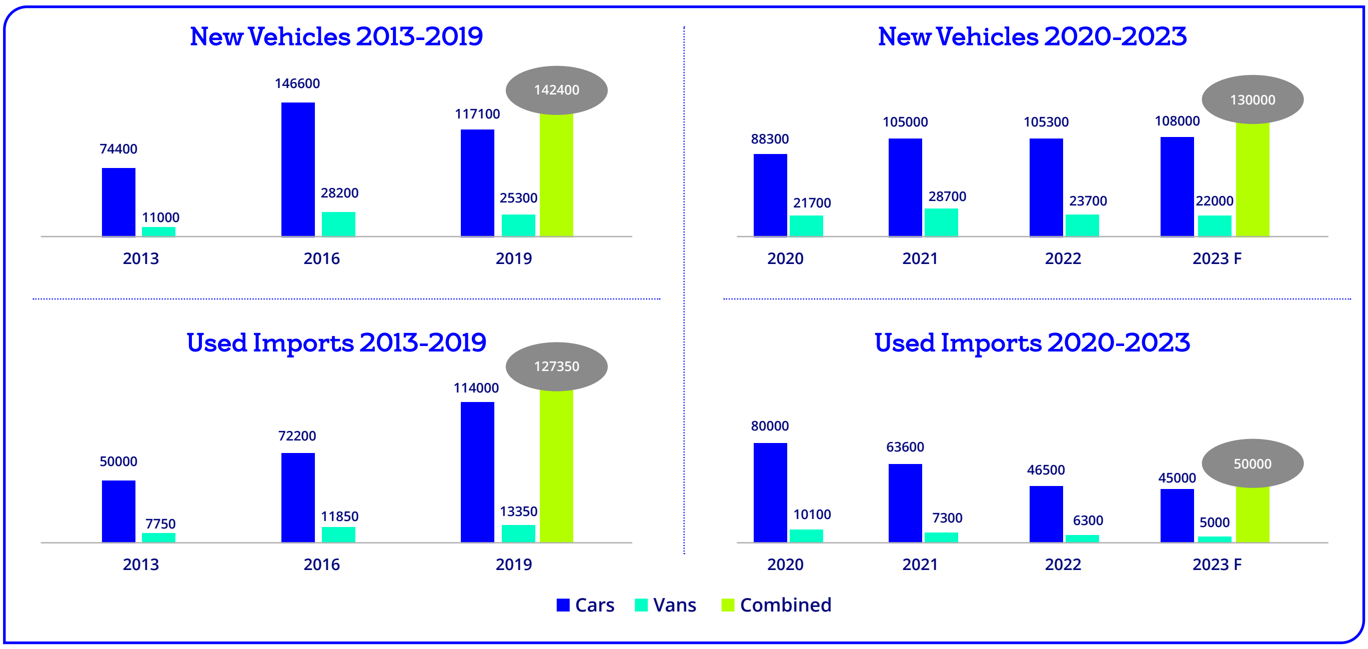
Post the Global Financial Crisis, the new passenger car market peaked in 2016 at 147k units (175k incl. new vans) following strong growth from a low base. New car sales contracted c. 20% from 2016 to 2019 following the Brexit referendum in 2016. Volumes of used imported vehicles increased materially during the same period, and peaked in 2019 at 114k units due to a weakened sterling and perceived value when importing from the UK. Prior to the Brexit referendum in 2016, imported used cars averaged c. 50k per annum (note: used imports returned to this level following Brexit in 2021). The effect of this increased the cost to change for consumers and thus dampened new car demand. Many dealers adapted to this environment by increasing purchases (and sales) of used cars to balance lost opportunity from the new car sales channel. Dealers have multiple income channels including that from new and used vehicles, aftersales service and parts, "F&I" commission, bodyshop repairs and, in some cases, testing centres (mainly heavy commercial test centres).

Market Post-Pandemic

2021: Vehicle supply issues, caused by global supply chain challenges for new vehicles and Brexit for used vehicles, started to bite in 2021. By year end, new passenger car registrations increased almost 19% year on year to 105k units despite pandemic restrictions in the first 4.5 months of the year. Compared to pre-pandemic levels, new car sales were circa 10% lower than the 117k units sold in 2019. Light commercial vehicle registrations (LCV) increased by circa 32% year on year to just under 29k units. There were more new vans sold in 2021 than in the peak year of 2016 and highlights strong demand for commercial vehicles throughout the pandemic. Used imported vehicles fell materially in 2021 due to Brexit and some dealers increased stocks in Q4 2020 in anticipation of market disruption. Used car values began to rise and motor dealers recorded higher vehicle margins for both new and used vehicles. This fed through to dealers posting record financial results per 2021 audited accounts.

2022: Pent up demand carried over into 2022, however, supply shortages impacted the true market potential. This is due to continued global supply chain challenges and microchip shortages in the sector, impacting manufacturing output. New car sales were more or less flat and increased 0.3% year on year, but compares favourably to a decline of 2% in the UK and a decline of 4.6% overall in the EU. It is worth noting that December 2022 marked the fifth consecutive month of growth in the EU as improved supply became available. Back in Ireland, new car rental registrations contacted by 40%, as vehicle distributors favoured supplying the more profitable retail sales channel during supply shortages. If we exclude new car rental registrations, retail new car sales increased 4% in 2022. LCV sales declined 17.7% however, this again was due to severe supply shortages across Europe. Vehicle distributors in Ireland report strong unfulfilled order banks that will spill over into 2023.

Car rental sales accounted for circa 5% of new car registrations 2022 (v. 15% historic average). The supply shortage has led to increased car rental prices in Ireland, and across Europe, a trend widely covered in the media. Car rental companies here have experienced a material improvement in both revenue and profitability since H2 2021 following a difficult period during the pandemic. They are finding it challenging, however, to replace short term rental fleets and there is pent up demand in this segment that will be satisfied when new vehicle supply improves.



Growth Needed

The Irish government published the Climate Bill and refreshed the Climate Action Plan (CAP) in Q4 2021. In the latest CAP, the 2030 target for electric cars was increased to 845,000 (+5k). Additionally, a target of 95,000 has been set for electric vans. There are c. 50,000 electric vehicles on our roads today from a total of 2.2m passenger cars – we have quite a way to travel yet.

In order to achieve electric vehicle targets set out in the latest CAP, the new car market simply needs to grow. The state can support the transition by continuing grants and incentives to accelerate BEV sales. This helps bridge the price gap until prices of BEV's align with the internal combustion engine (ICE). Government supports are vital to support the continued growth of electric vehicles in Ireland.

Used Vehicles

Used cars are also in short supply due to lower new car sales in 2020 and 2021, increased vehicle registration tax (VRT) – which impacts affordability and demand – and reduced volumes of used imports due to Brexit. Residual values strengthened again in 2022 however, motor dealers now report values have levelled off.

95% of used imported cars were sourced from the UK pre-Brexit. Dealers continue to import used vehicles where value is present, however rising residual values in the UK and tighter supply there have significantly impacted volumes imported to Ireland.

In 2022, used car imports declined by circa 27% year on year compounding a shortage of used cars in the market. The volume of used cars imported from the UK declined 58% last year (-82% from peak year) representing just 43% of overall used imports. Dealers sought alternative sources to maintain supply and imports from Japan have increased notably. The share of Japanese used imports has increased to circa 40% of used car imports in 2022 and higher demand is likely in 2023.

Used Imports by Origin	FY 2022	FY 2021	FY '22 v. FY'21	FY 2019	FY '22 v. FY'19
UK	19,744	47,033	-58.0%	108,083	-81.7%
Japan	18,524	9,805	88.9%	5,187	257.1%
Other	8,222	6,777	21.3%	656	1153.4%
Total	46,490	63,615	-26.9%	113,926	-59.2%

Outlook

We remain cautiously optimistic with regard to our outlook for this important sector in Ireland. In 2021 new car retail sales were almost on a par with 2019 levels if we exclude the hire drive sales channel. Constrained new car and van supply impacted the true market potential in 2022. The new car market was more or less flat in 2022 and finished about 90% of 2019 pre-pandemic levels. New van sales in 2022 came in at roughly 93% of 2019 pre-pandemic levels (albeit -18% v. 2021). This was caused by supply side constraints rather than weak demand.

New and used shortages will continue in 2023, however, new vehicle supply is expected to improve in the second half of the year (for the 2024 market). It is likely that the impact of supply shortages will vary by brand this year as was seen in 2022.

Interest rates are on the rise, however vehicle distributors here subvent interest rates to make new vehicles attractive to consumers. We also operate in an inflationary environment and the uncertainty it brings. Savings remain at an all-time high and we have almost full employment in Ireland. Demand for electric vehicles continues to grow. As stated in our last Insight & Outlook report, it's important to remember those positive nuggets. Looking forward, despite the well reported challenges, motor dealers here report strong order banks built for the important January market.

The story of strong forward orders are supported by an improvement in sentiment per Bank of Ireland's Consumer and Business Pulse surveys. The overall reading in December marked a second consecutive gain. The consumer index in December recorded the best reading since May 2022.

The Society of the Irish Motor Industry (SIMI) expects a new car and new van market of 108k and 22k respectively in 2023, more or less in line with 2022 volumes.

Supporting our Customers

The sector is transitioning to low emission and electric vehicles over the course of the next decade and we fully support our partners as the sector continues its transition. Bank of Ireland Finance (BIF) is partnered with 21 motor franchises and these franchises represent c. 45% of annual new vehicle sales.

We note increased activity in motor dealer acquisitions in 2022. Consolidation of single operators into larger dealer groups is likely to continue and may accelerate in 2023. Refinance opportunities will present themselves from time to time and we welcome the opportunity to discuss these needs with both current and new customers.

Stephen Healy
stephena.healy@boi.com
085 289 8600

Stephen joined Bank of Ireland in 2018 and brings over 20 years Motor Sector experience developed in both Retail and National Distributor positions. He comes to us direct from industry having previously been employed as General Manager for a multi-franchised retail motor group for 7 years. In addition to a first class honours BA in Business Studies (Hons) from Griffith College Dublin, Stephen holds a Certificate in Transport Engineering from Dublin Institute of Technology.

Sources: Society of the Irish Motor Industry (SIMI), Society of Motor Manufacturers and Traders (SMMT) Central Statistics Office (CSO) Climate Action Plan 2021