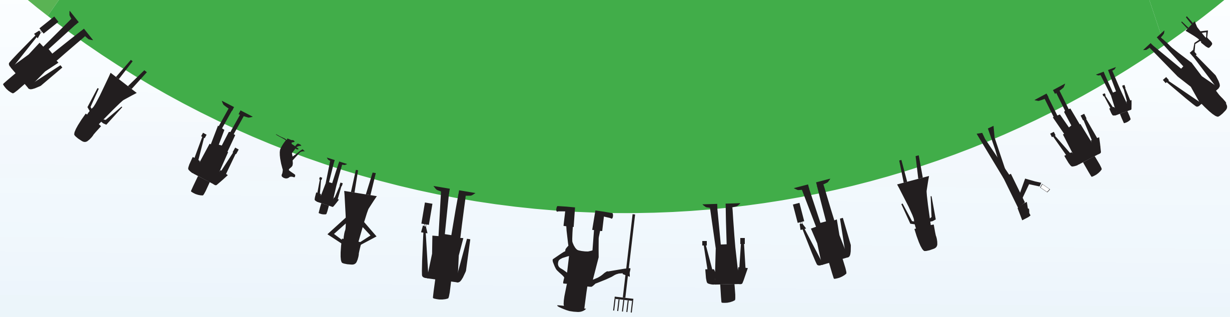
AGRI BUSINESS

Summer 2015

An Irish Farmers Journal report in association with KPMG



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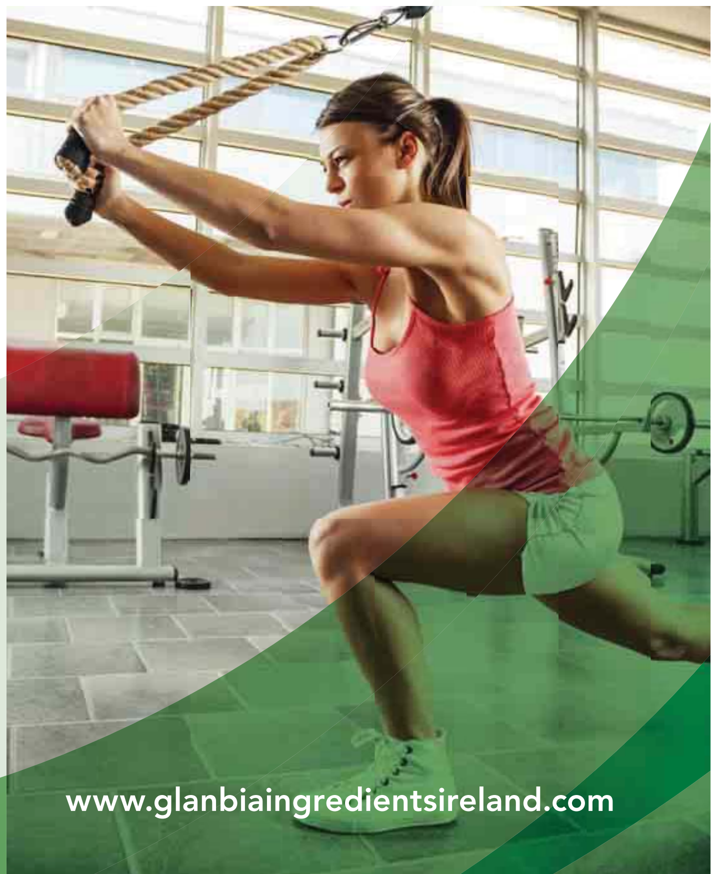

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AGRI BUSINESS

FOREWORD

Eoin Lowry

Agribusiness editor, *Irish Farmers Journal*

The agri-food sector continues to play an integral part in Ireland's economic recovery and is our largest indigenous industry, contributing €26bn in turnover and generating 12.3% of merchandise exports. The sector is critical to the rural economy and accounts for almost 250,000 direct and indirect jobs. Last year, food and beverage exports increased to a record value of €10.5bn.

This year's agribusiness report outlines the key trends that are changing the world. We have identified four macro trends that affect Irish agribusinesses.

It is particularly timely as we move into a flatter world with the abolition of milk quotas and the opening up of trade barriers. The report looks at how people are changing – where they live, what they eat and how they spend their time.

Specifically, the way people consume protein is changing and we look at the effect this has on Irish agribusinesses and, ultimately, on farmers. The *Irish Farmers Journal* is delighted to partner with KPMG in producing this publication, which aims to improve our understanding of the challenges faced by Irish agribusinesses.

In the following sections, we present the results of our analysis, outline what Irish agribusinesses can do to compete and draw some conclusions as to the implications for all those involved in the sector.

This report looks at how people are changing – where they live, what they eat and how they spend their time

David Meagher

Partner-in-charge for Agribusiness, KPMG

Irish agribusiness stands at a crossroads. Production volumes across the sector are increasing and, with dairy quotas behind us, this growth is likely to accelerate.

Our annual survey of business leaders in the sector shows a marked improvement in confidence since our first survey in 2013. For example, 98% expect the Irish economy to grow in 2015, compared with just 45% in 2013, and 96% expect growth in their own businesses.

At KPMG, we are proud to work with many leading Irish agribusinesses, and from those businesses too, the sentiments are optimistic.

We are delighted to have partnered with the *Irish Farmers Journal* to produce our third annual agribusiness report.

In this year's report, we have taken a more macro view, and set out the major trends that will influence the global markets for food over the coming decades.

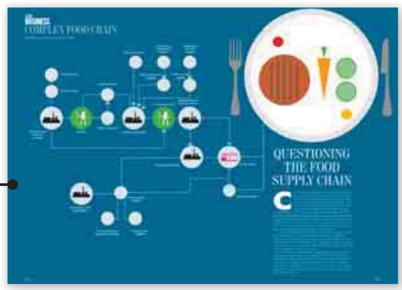
Ireland is well placed to meet the challenges of this new world. But, in striving to feed 50 million consumers, we must not be complacent. We cannot assume that growing production volumes is all we need to do.

Boards of directors and management must commit time and resources to really understand the markets of the future, and must focus on differentiating Irish products. We hope that this report will help Irish agribusiness to meet these challenges.

Our survey of business leaders in the sector shows a marked improvement in confidence since our first survey in 2013

AGRI BUSINESS

CONTENTS



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AGRI

BUSINESS

INTRODUCTION

EU FARMERS MUST BE GIVEN FREEDOM TO COMPETE

Justin McCarthy

Editor,
Irish Farmers Journal

In this report, we have established that there will be a strong demand growth for food. Based on current calorific consumption levels, a rising global population will require food production to double by 2050. While this is a significant challenge, there is no doubt that the industry has the capacity to respond. History has clearly shown this to be the case.

However, history also shows the importance of aligning government policies to delivering the desired outcome. In today's environment, the lack of policy alignment to meeting food production challenges represents the biggest threat. No more so is this evident than in the EU, where we have a Common Agricultural Policy (CAP) in which the link with production has been almost eroded.

The ability of European farmers to contribute to the growing global demand for food will require a significant refocus in EU policy; not only encompassing the CAP but also the effect of the "precautionary" principle in preventing farmers from adopting global technologies that can boost productivity and/or streamline costs.

From an Irish perspective, we need to look beyond the headline figures to see the real potential for our exports. As premium protein producers, the real opportunity for Irish exports is the additional 160 million people entering the middle-class bracket every year. With a clear correlation between disposable income and consumption of luxury beef and dairy proteins, Ireland is ideally positioned to capitalise.

While agribusinesses are the route to market for farmers' output, we must ensure that there is equitable distribution of income and profits along the chain. We cannot allow for the growth potential to be harvested by those operating at either side of the farm gate.

Figures published recently by Teagasc forecast that farmers will receive little benefit from increased production levels. Instead, the benefits will be reaped by a concentrated network of input suppliers and an equally concentrated network of purchasers of farm produce. Sustainable growth will not take place in such and environment.

Commitment

The commitment by EU Agricultural Commissioner Phil Hogan to deliver the necessary transparency to ensure an equitable distribution of profits across the supply chain is therefore critical.

Back to national level and, from an infrastructural perspective, Ireland is ideally positioned to capitalise on a growing middle-class consumer base, should the necessary production environment be delivered.

The lack of policy alignment to meeting food production challenges represents the biggest threat

At both farm and processing level, we have a production system that exceeds even the most rigorous food safety standards. Our grass-based production models are some of the most sustainable in the world, both in terms of economic and environmental sustainability, and we have a highly sophisticated distribution network giving access to an enviable portfolio of premium retailers and food service providers.

Of course, we cannot rest on our laurels and we must be prepared to constantly innovate through ongoing investment in independent research.

Words: Cathal McDonagh, KPMG

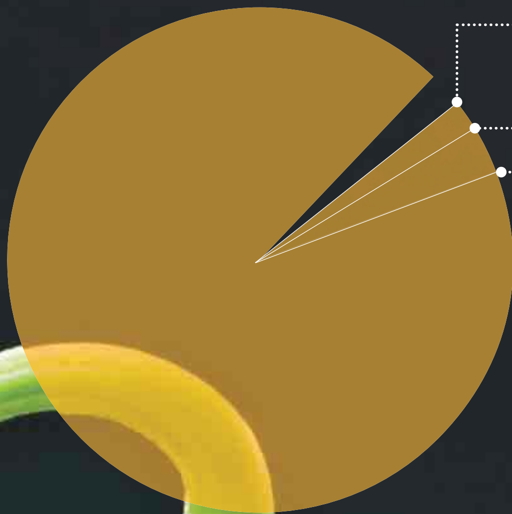
SOWING THE SEEDS OF GROWTH

The results of the third KPMG/*Irish Farmers Journal* agribusiness survey reinforce some important views from previous surveys but also reveal a number of new trends

From the abolition of dairy quotas to increased consumer demand globally, it is hard to remember a time when opportunities for growth in the sector were more prevalent. These factors, together with the continued improvement in economic sentiment in Ireland, have contributed to the fact that more companies in the sector are planning to invest in their business in the next 12 to 18 months. It is clear that the Irish agribusiness sector is preparing to grow, on a global scale.

Our survey collates the views of key decision-makers in the agri-business sector across a wide range of topics including economic outlook, investment plans, acquisition activity and key challenges, both internal and external. As this was the third year of the survey, the questions posed were designed to highlight emerging trends. However, we also sought to provide an insight into the importance of research and development activity, product innovation and sustainability initiatives to companies in the sector.

Our survey was based on a questionnaire prepared by KPMG and the *Irish Farmers Journal* and completed by participants in early 2015. The results are encouraging and continue to demonstrate a confidence in the sector. However, challenges exist in relation to the need to innovate, access to finance, and the recruitment and retention of key personnel. Companies need to reflect on how to address these challenges.



98%

expect the Irish economy to expand in 2015. By contrast, just 45% of respondents expected growth when asked in 2013

96%

expect their business to grow in 2015, up from 85% in 2014

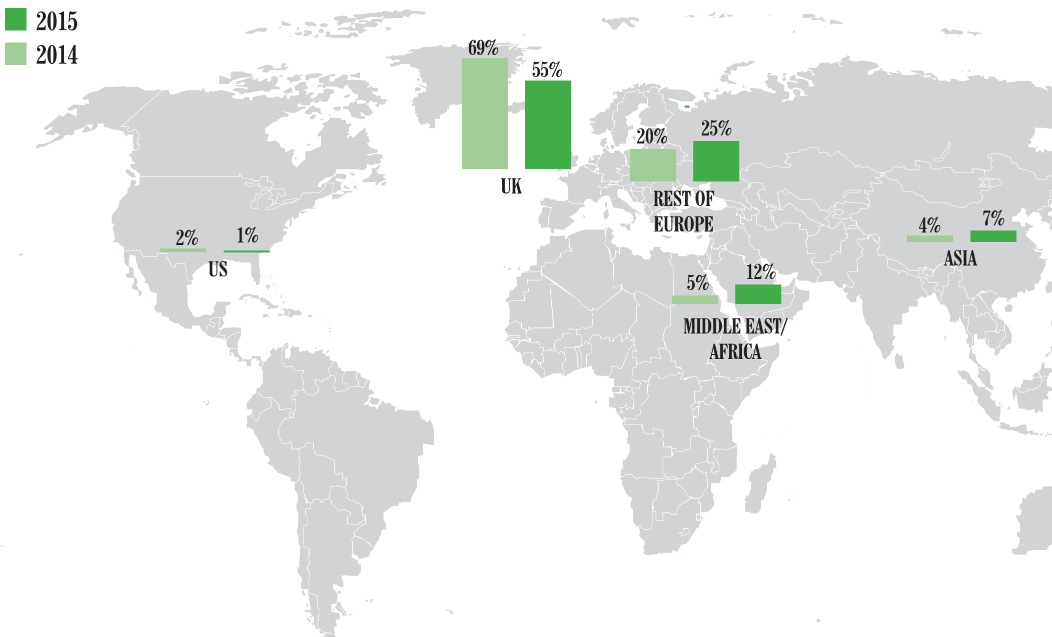
93%

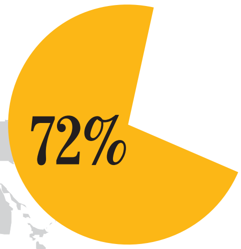
expect the agri sector as a whole to grow in 2015

Drivers of growth

1. **70%** feel that increased consumer demand will be important to drive growth
2. **66%** cite R&D and innovation as important drivers of growth
3. **39%** feel that dairy quota abolition will drive growth in their business
4. **27%** believe they will grow through mergers and acquisitions
5. **30%** don't see sustainability initiatives as an important driver of growth

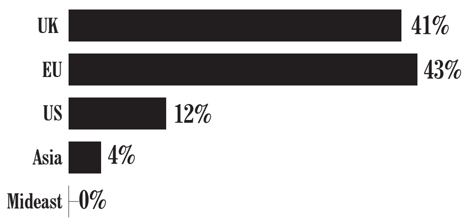
PRIMARY EXPORT DESTINATIONS





Of the companies surveyed are exporters of goods and services

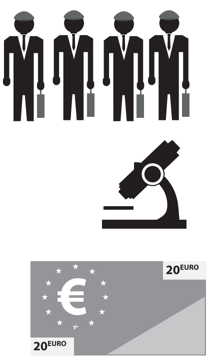
MAIN IMPORTING REGIONS



The results of this year's survey indicates that there is a growing emphasis on international markets from respondents. 55% of respondents said that the UK was their primary export destination, down from 69% in 2014. International markets such as the Middle East/Africa and Asia have grown in importance to respondents, with 12% saying the Middle East/Africa is their primary export destination and 7% saying Asia. This is a significant increase from 2014. Europe is the most important export market for 25% of respondents.

KEY CHALLENGES

Internal

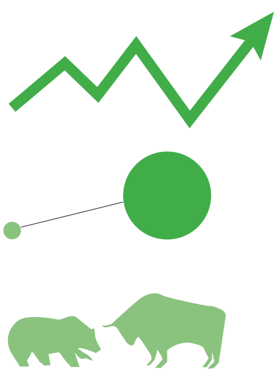


1 39% of companies surveyed cite recruitment as a key challenge

2 28% cite R&D

3 27% cite financing capital projects

External



1 65% of companies surveyed cite price volatility as a key challenge

2 16% of companies cite the scale of competitors

3 Economic conditions are seen as a key challenge by 13%

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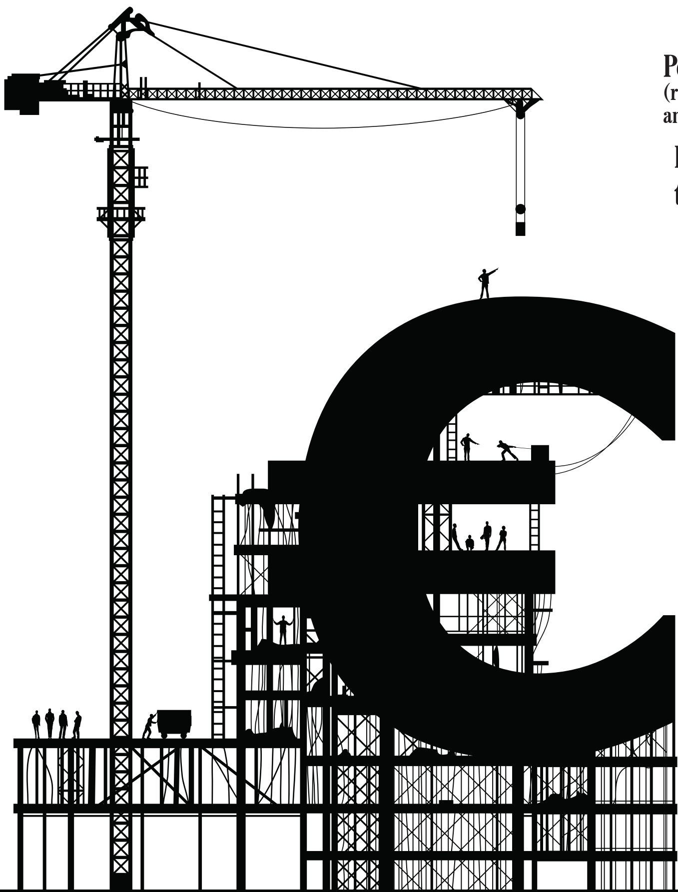
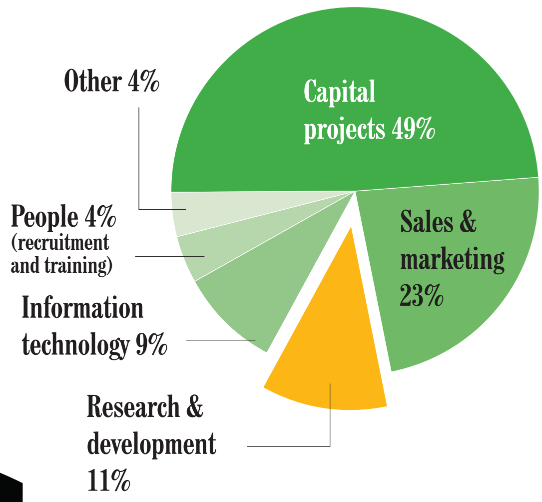
90%

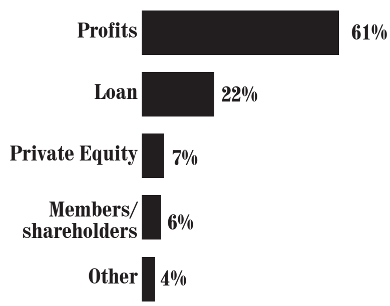
of respondents will invest in their business over the next 12-18 months



WHAT BUSINESSES WILL INVEST IN

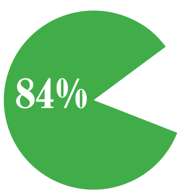


HOW WILL BUSINESSES FUND IT?



There was a relatively low level of planned investment In the key area of R&D. Of the companies that invested in R&D in the past, only 34% took advantage of the available tax credits.

HOW COMPANIES VIEW SUSTAINABILITY

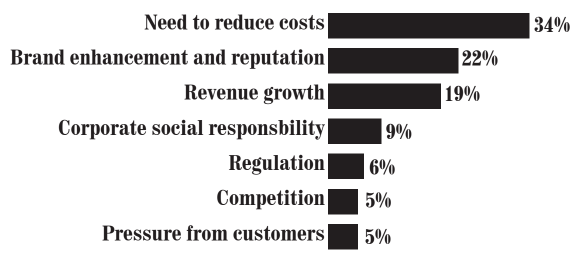


Of companies surveyed view sustainability as important

75%

of respondents invested more than €100,000 in sustainability initiatives over the past 12 months

Why are businesses investing in sustainability?

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WHAT YOU SAID

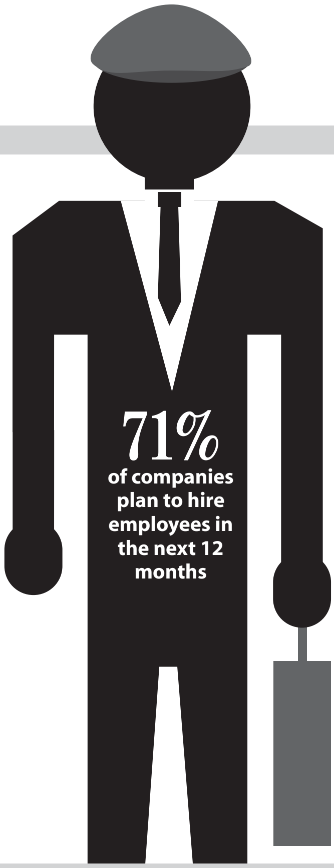
‘The business environment has certainly improved in the last year but we would be happy to see 3-5% growth for the next 10 years, rather than a huge ramp-up in the next 2-3 years and uncertainty thereafter’

‘Much of the changes over the coming year will depend on farmer sentiment in the face of challenging milk prices and access to cashflow’

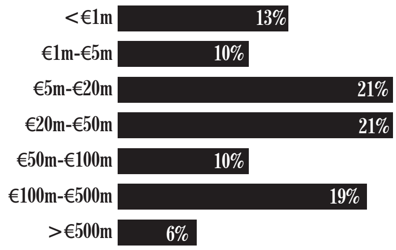
‘A difficult year ahead but the medium to long-term outlook for dairy remains positive’

‘Market volatility is a reality of competing in global markets’

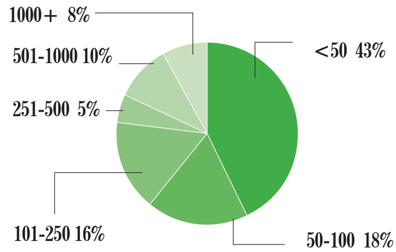
‘The economic climate for the quality artisan sector is improving’



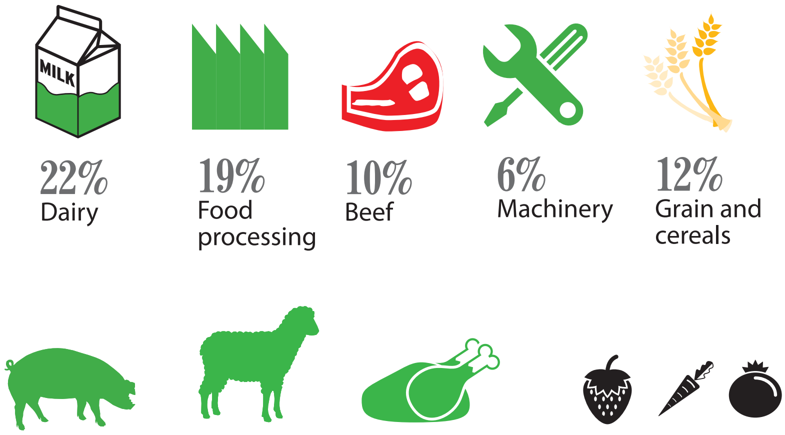
TURNOVER OF COMPANIES



NUMBER OF EMPLOYEES



PRIMARY AREA OF BUSINESS



22% Dairy

19% Food processing

10% Beef

6% Machinery

12% Grain and cereals

10% Pigs

1% Sheep

2% Poultry

6% Horticulture and agronomy

Methodology

The research for the survey was conducted by a combined team from the *Irish Farmers Journal* and KPMG and was based on a representative sample of Irish agribusinesses, North and South.

The survey, which consisted of 26 questions across a range of agribusiness-related topics, was sent to the senior management of a wide cross-section of businesses within the sector. Questions one to five were tailored to gather information about the respondents and enable us to establish the demographic. All quotes used throughout this article were submitted by respondents. The survey was made available to respondents in hard copy and was also available electronically.

We would like to thank all the respondents for taking the time to complete the *AgriBusiness* survey, and we hope you find our results informative and insightful. We welcome any feedback and suggestions that you feel could improve our 2016 *AgriBusiness* survey.

FEEDING 50 MILLION PEOPLE

Ireland has come from a situation where it was unable to feed itself in the 19th century to providing food to feed 50 million people globally today

Perhaps one lesson we learned the hard way from the Great Famine was not to put all our eggs in one basket. The same is true today – we must develop diverse markets that secure sustainable growth for the sector, agribusinesses and farmers alike.

The underlying fundamentals are strong. If today is Monday, then by Friday there will be approximately 700,000 additional mouths to feed. Such is the rate of expansion of the world's population as we head towards nine billion people by 2050. This is challenging every aspect of how companies do business and how we will feed the world in the future.

But, what do we know about this new world? By 2050, more people will live in Asia than in the rest of the world combined. One constant throughout this report is China. It is dominating the discussion and driving the change.

While it is important for Irish agribusinesses to have a presence there, the real opportunity for Ireland may be in China's ability to absorb food from the key exporting nations such as New Zealand, Brazil and the US. This provides an opportunity for Irish produce to command premiums in more established markets.

With 55% of our exports going to the UK, the greatest opportunity for Irish agribusinesses may be on our doorstep. The population of the UK is expected to grow by 10 million in the next 15 years to 70 million. Even though it is important to diversify, this is our core market and must not be forgotten.

Despite spending such a small percentage of income on food, the Western consumer is demanding more from it. Along with tasting great, food needs to be safe, traceable, nutritious, healthy and at the right price point. This presents possibly the greatest challenge for the industry.

Ireland is a high-cost economy of small scale producing premium protein. Are we doing enough to target the consumers who are willing to pay for the very best? Our beef and lamb could be sold as a luxury product, similar to the way Champagne and Rolls Royces are sold to the Chinese. Anything is possible in a market where a select whiskey can retail for upwards of $30,000 a bottle.

With 55% of our exports going to the UK, the greatest opportunity of all for Irish agribusinesses may be on our doorstep

Technology is changing how we live. Established institutions such as the large fast-food chains and supermarkets are now struggling to adapt to the connected consumer. This is forcing them to re-evaluate their business strategies, which have been so successful in the past.

The status quo is being challenged as the consumer holds more power than ever before. No longer will bigger beat smaller, but it will be the innovative companies such as Chipotle and Shake Shack that will win in the future.

Words: Eoin Lowry and Lorcan Allen

HOW DO WE RANK?

In order to be successful in a global market, it is important to benchmark ourselves against competitors to see how Ireland performs against the very best

As a small open economy, Ireland depends on trade with other countries. Our largest indigenous industry, agriculture, contributes €26bn in turnover and generates 12% of our merchandise exports.

In the 1990s, Ireland positioned itself as a gateway to EU markets, particularly for US foreign direct investment, thanks to a highly productive, well-educated workforce and a business-friendly environment with low corporate tax rates. While this helped fuel the Celtic Tiger years, during this time the agri-food sector became the poor relation. However, the sector has since emerged as one of the main drivers to aid recovery while also holding the key to growth in the rural economy.

The agri-food sector continues to play an integral part in Ireland's economic recovery and, according to Bord Bia, food and beverage exports increased a further 4% last year to €10.5bn. This represents a 45% increase since 2009.

With up to 90% of our production exported, the sector is highly dependent on foreign markets. To maintain the success of our export sector, it is critical to benchmark our performance against competitors and identify the areas where improvement can be made.

A 2014 *Global Competitiveness Report* published by the World Economic Forum ranked Ireland as the 25th most competitive nation out of 144 countries. The report confirms that, although the macroeconomic situation remains difficult due to high Government debt and a budget deficit, Ireland remains a highly competitive country thanks to long-established strengths at a global level.

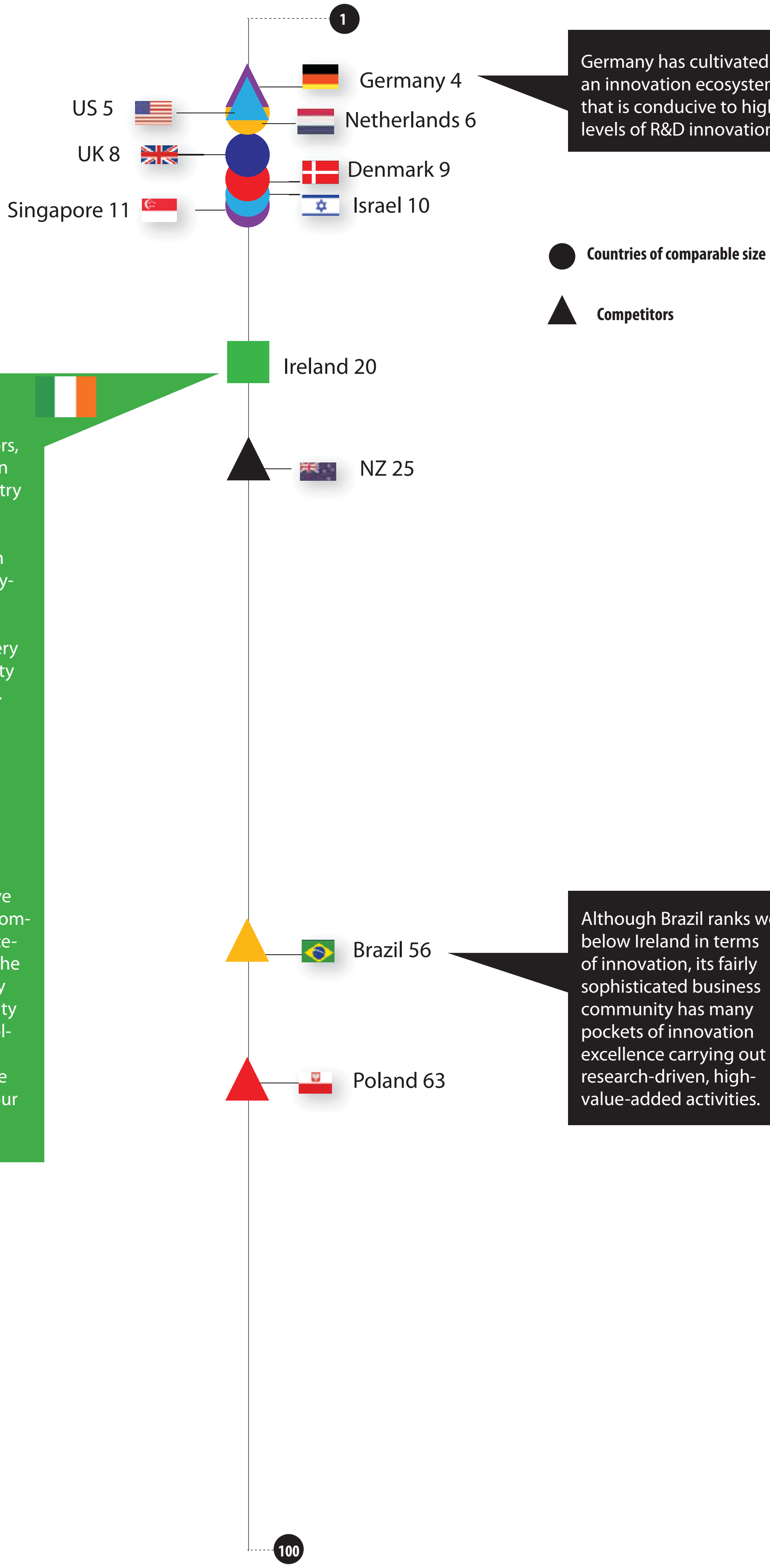
Here we have benchmarked Ireland's performance against other small developed economies, our nearest neighbour (the UK), and some of the major exporters in global agriculture. We have compared Ireland's performance with that of this group in terms of competitiveness, tax policy, infrastructure, innovation and labour market efficiency.

Although Ireland ranks relatively high in terms of competitiveness (25th), we are still some way behind rivals such as New Zealand (17th), Denmark (13th), the Netherlands (eighth), and the US (third). Despite being a major global player in agriculture, Brazil remains a relatively uncompetitive economy, ranked at 57.

Innovation

How Ireland fares against countries of comparable size and against the major exporting nations in terms of innovation

Source: Global Competitiveness Report



Germany has cultivated an innovation ecosystem that is conducive to high levels of R&D innovation.

Although Brazil ranks well below Ireland in terms of innovation, its fairly sophisticated business community has many pockets of innovation excellence carrying out research-driven, high-value-added activities.

Innovation

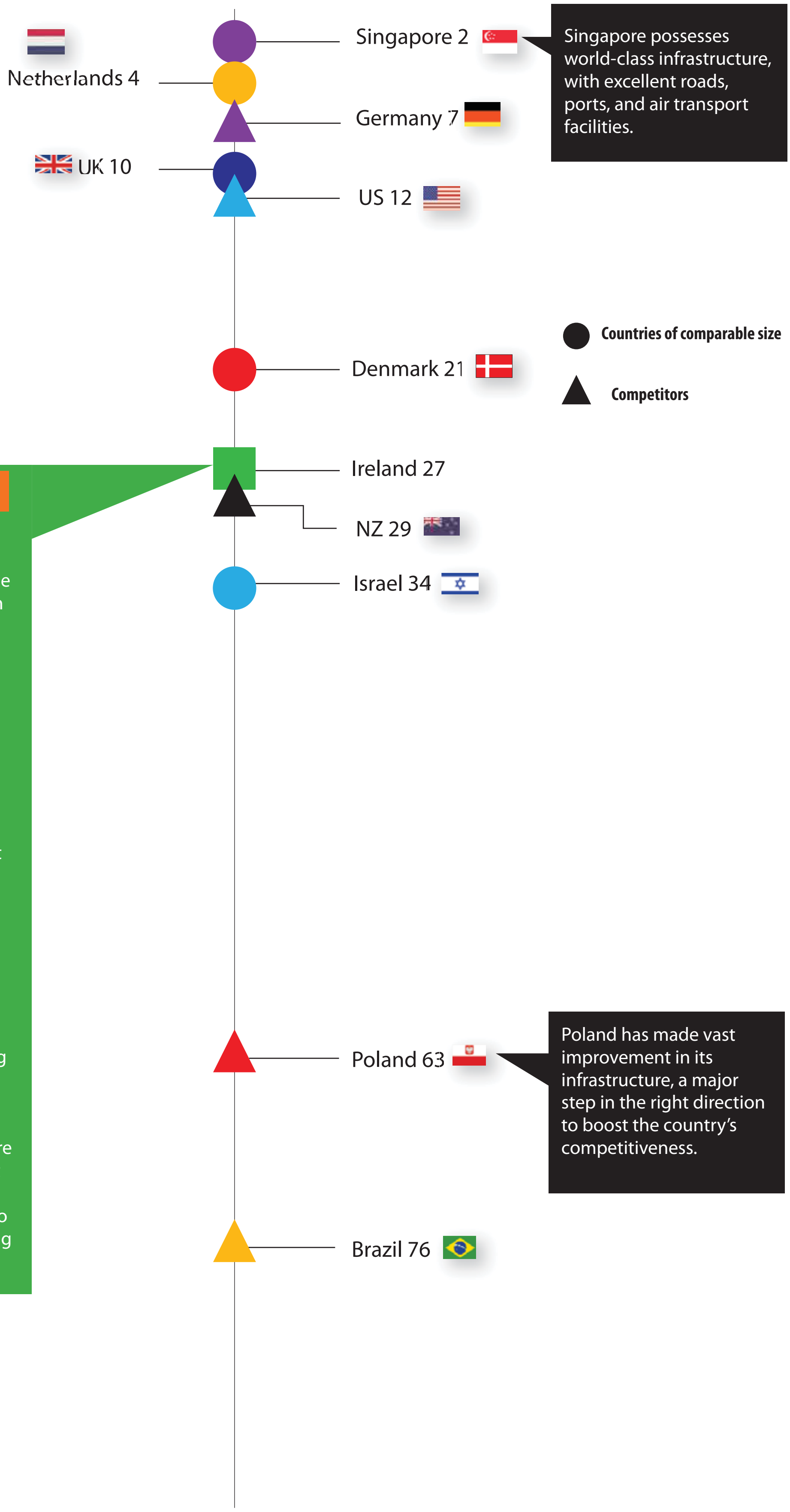
In terms of innovation, Ireland scores poorly compared with our competitors, ranking 20th. We rank in 13th position for R&D collaboration between industry and universities. Of the countries similar to Ireland, the Netherlands performs the strongest – ranked sixth for innovation and ninth for university-industry collaboration on R&D. The UK is also ranked very highly for innovation at eighth and performs very strongly in terms of industry-university collaboration on R&D, ranking fourth.

Comment: Ireland's performance in terms of innovation, when compared with our competitors, is a concern for our relatively small dairy industry in particular. Innovation is far more advanced in countries such as the Netherlands, giving companies such as FrieslandCampina that already have scale another advantage as a direct competitor. However, the recent announcement of a joint €35m investment by the Government and the industry in dairy processing innovation at the University of Limerick's Dairy Processing Technology Centre and the Moorepark Technology facility in Fermoy is a welcome boost and should pay dividends for our competitiveness in the future.

Infrastructure

How Ireland fares against countries of comparable size and against the major exporting nations in terms of infrastructure

Source: Global Competitiveness Report



Infrastructure

Developed infrastructure is a key component for economic success as it increases productivity and enhances the efficiency of production, transportation and communication. For a small open economy like Ireland's, a good infrastructure network is essential to maximise competitiveness. In saying this, Ireland's infrastructure is ranked 27th, a weak score and well behind competitors such as the US (12th), the UK (10th), Germany (seventh) and highest of all the Netherlands (fourth). Unsurprisingly, the Dutch port infrastructure is ranked as the very best in the world.

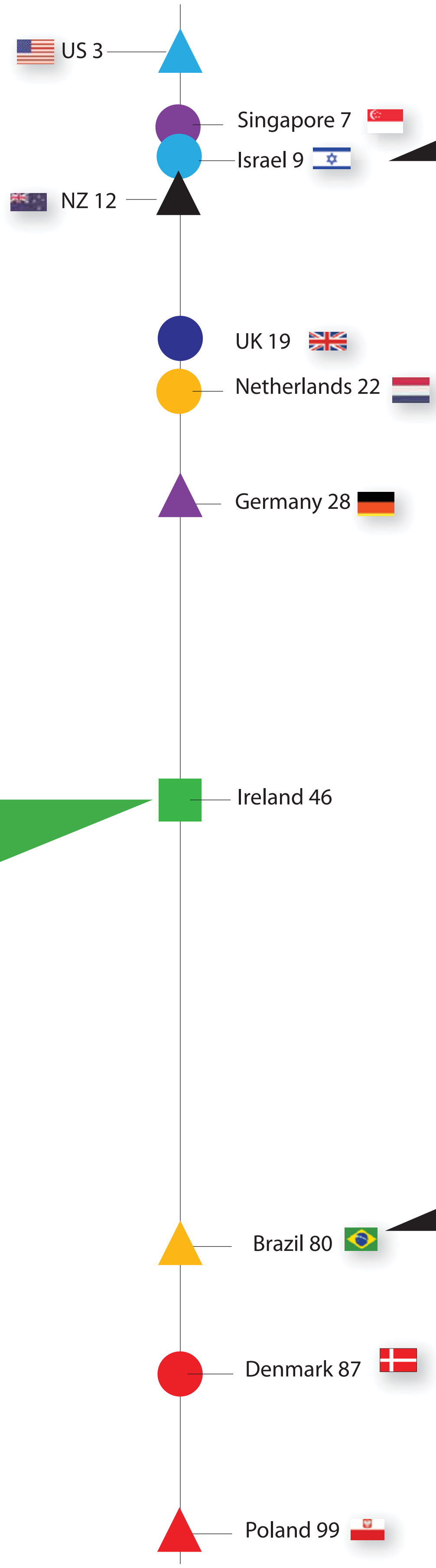
Comment: As an export-orientated island nation, with designs on supplying food and drink to countries half the world away, investment in world-class infrastructure is critical. Improving air connections between Ireland and key markets is essential to maximise trading partnerships.

The current discussions around whether or not the government's stake in the national airline should be sold are important for the sector. As an island, it is critical that we have direct links with our key markets to provide the ability to build new connections with new trading partners.

Venture capital

How Ireland fares against countries of comparable size and against the major exporting nations in terms of venture capital availibility

Source: Global Competitiveness Report



The availability of venture capital in Israel is among the best in the world, creating a favourable financial environment for start-ups.

Brazil is poised to face strong headwinds related to recent shifts in the global economy, with potential outflows of capital that had come from advanced economies during the height of the financial crisis.

Venture capital

The availability of venture capital is critical for businesses planning on expansion, capital expenditure or making an acquisition. In the wake of the European banking crisis, the availability of venture capital in Europe has been curtailed for many businesses.

The availability of venture capital in Ireland is extremely limited – we rank 46th on the list. However, venture capital is also scarce for many of our European competitors, with the UK ranking 19th, the Netherlands ranking 22nd and Denmark and Poland way back in 87th and 99th position respectively in the rankings.

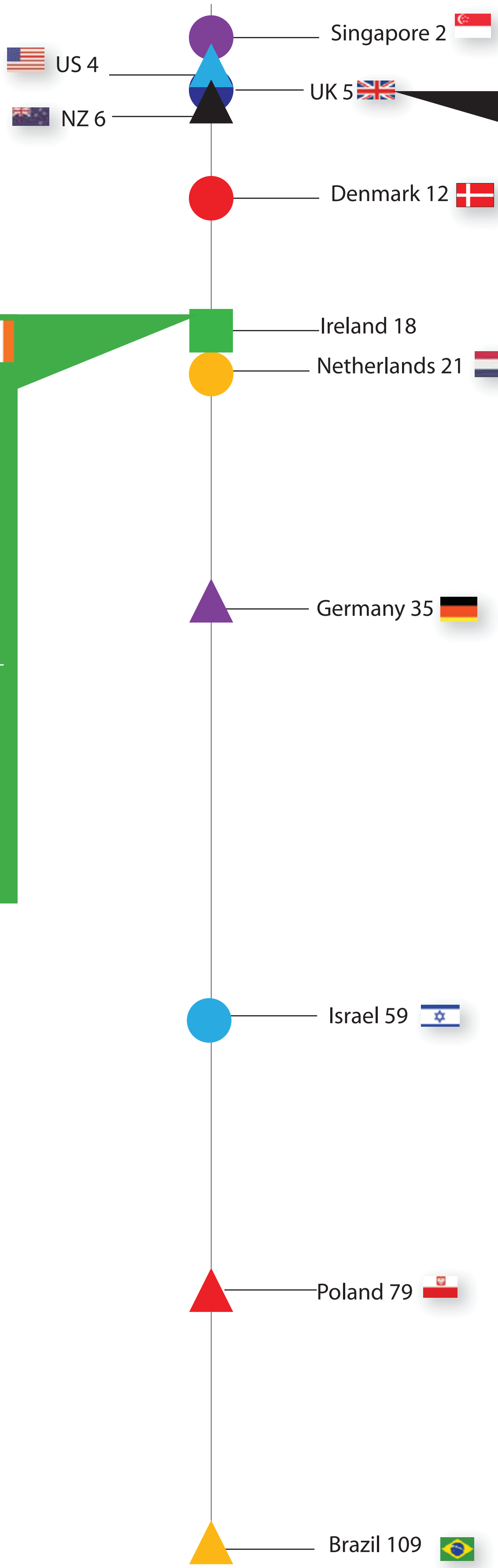
Outside of Europe, the US places very strongly in third position while New Zealand sits 12th in the rankings. Brazil is ranked in 80th position, although many businesses there receive substantial financial support from the state-backed Brazilian Development Bank (BNDES).

Comment: Over the years, large Irish agribusinesses have tended to be great cash cows, funding bolt-on acquisitions through surplus cashflow. At the other end of the scale, small- and medium-sized enterprises (SME) need a variety of funding options to allow them to scale and grow. If we are serious about growing the sector, more support is needed for the SME businesses in the form of venture capital.

Labour

How Ireland fares against countries of comparable size and against the major exporting nations in terms of labour market efficiency

Source: Global Competitiveness Report



The United Kingdom continues to benefit from one of the world's most efficient labour markets.

Labour market efficiency

Two areas where Ireland scored inside the top 20 were for the efficiency of the labour market (18th) and the quality of higher education and training available for the workforce (17th). Despite this, Ireland's labour market efficiency is still ranked lower than New Zealand (sixth), the UK (fifth) and the US (fourth).

Higher education and training services available to the workforce in Denmark and the Netherlands are also ahead of Ireland at 10th and third position respectively, while the higher education and training standards in the US are ranked higher in seventh position.

Comment: While Ireland can draw on a well-educated workforce at present, it is essential that the higher education and training institutions continue to focus on the future needs of the industry and prepare graduates accordingly.

The Netherlands is somewhat hindered by some persistent rigidities in its labour market, especially in terms of hiring practices and wage determination – these rigidities are regarded as the most problematic factors for doing business in the country.

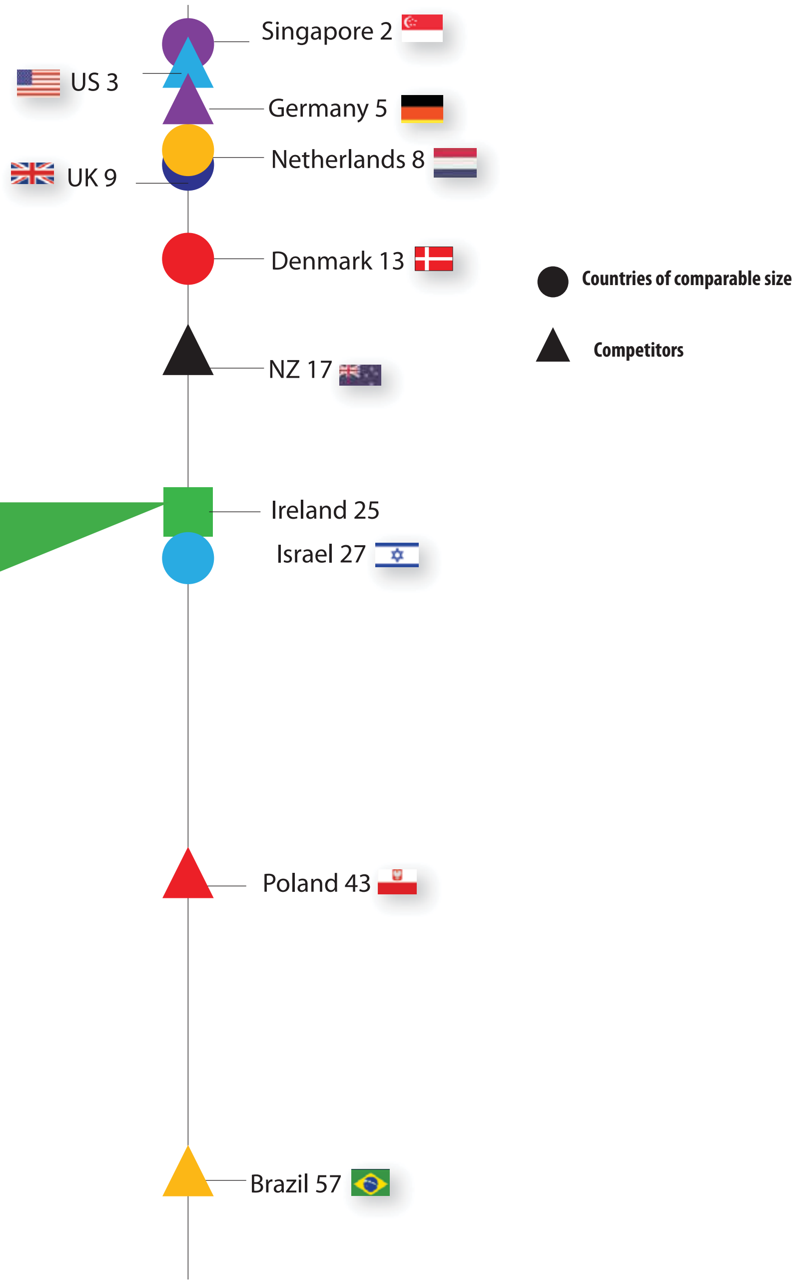
● Countries of comparable size

▲ Competitors

Competitiveness

How Ireland fares against countries of comparable size and against the major exporting nations in terms of competitivesness

Source: Global Competitiveness Report



Competitiveness

Ireland ranks as the 25th most competitive economy out of 144 countries. While this may seem like a good score given the small size of our economy, we are still some way behind rivals such as New Zealand (17th), Denmark (13th), the Netherlands (eighth), and the US (third).

Singapore's economy consistently ranks as one of the most competitive in the world, and is in second position for 2014 thanks to incredibly efficient financial institutions, world class infrastructure and a flexible labour market.

Comment: Developing economies such as Poland and Brazil, despite being major global players in agriculture, remain relatively uncompetitive. However, these countries will continue to close the competitiveness gap on the world's developing economies as they develop better infrastructure, increase innovation and improve access to education for the workforce.

Corporate tax

The corporate tax rate in Ireland is the lowest (at 12.5%) of all the countries compared here, which reflects the importance placed on foreign direct investment by the Government. The closest to Ireland for corporate tax is Singapore at a rate of 17%, followed by the UK rate of 21%.

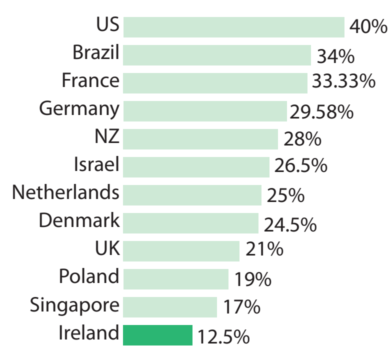
The Netherlands (25%), Denmark (24.5%) and Germany (29.65%) all charge businesses a much higher rate than Ireland, largely due to a much stronger SME sector in each country reducing the reliance on foreign direct investment.

Outside of Europe, the US corporation tax is a hefty 40% while the rate in Brazil is 34% and it is 28% in New Zealand.

Over the last number of years, the Irish corporate tax rate has been closely scrutinised, with many calling for it to be brought in line with other European countries.

While Ireland's low corporate tax rate was originally installed to attract foreign direct investment, it has significantly helped our indigenous businesses, giving them a competitive advantage over international rivals. We need to maintain the corporate tax rate in order to keep that advantage to offset our geographical location on the periphery of Europe.

CORPORATE TAX RATES



Source: KPMG Corporate Tax Rate Table

AGRI BUSINESS

THE KEY TRENDS THAT ARE CHANGING THE WORLD

Take a few moments to think back to 1984. The world was a very different place. None of us had email – in fact, it was still four years before Sir Tim Berners-Lee would invent the worldwide web that we know today. Very few of us had any form of mobile phone, we had milk quotas, intervention, airlines were all full-service, and banking was almost exclusively done face-to-face at the branch counter.

The world was moving at a slower place, and established companies were comfortable with their role in the traditional world order. Their heavy investment in assets and infrastructure to meet customer needs made it all but impossible for emerging competitors to gain a toe-hold in a market to try and disrupt the status quo. This is best illustrated by the tenure of listed companies in the S&P500 index. In 1958 a company remained in the index for an average of 61 years. This had decreased to 25 years by 1980, and 18 years by 2011. The Economist has forecast that average tenure by 2025 could be as short as five years.

Our ability to generate, collect and analyse data has increased at an exponential rate over the intervening 30 years, driven by unprecedented technological evolution. We can now access and share information 24/7. Algorithms, interfaces and social networks have replaced bricks and mortar as the drivers of business value; and intuition and technological nous are more relevant to the future survival prospects of a business than a venerable history and a current large market share.

While it is a cliché, it has never been truer that change is the only constant in the world of 2015.

A review of recent literature on how our world is likely to evolve over the next 30 years suggests we will not see any let-up in the pace of change. As technology continues to diffuse into our day-to-day environment, we will also have to grapple with the re-emergence of Asia as an economic powerhouse, expected changes to our climate, and approximately two billion additional mouths to feed.

In this, our third *Irish Farmers Journal* KPMG Agribusiness Report, we have taken a different approach to previous editions, and have set out to explore the macro trends that are expected to shape the political, social, environmental and economic outcomes for the global community over the next 20 to 30 years.

We have identified 19 key trends that are likely to have the greatest influence on our global future.

The report considers the impact these trends may have on how the global agri-food system produces, distributes and ultimately consumes food. Based on our conversations with global agrifood companies and sector industry leaders, we also assess the opportunities and challenges that these global trends create for the wider Irish economy and the primary sector companies in particular.

The world is not a simple place. The range of forces influencing global development are diverse and varied. In this report, we have grouped the key global trends into five overarching themes that describe our multipolar world.

Report outline

POWER & INFLUENCE

Economic dynamics – as economies try to move beyond the global financial crisis, different mechanisms are being used to ignite growth, which is affecting global trade

Changing face of energy – traditional oil producing groups are being challenged by new competitors thanks to advances in technology

The power of the world is moving east – in recent times the west has dominated global economics and power, but the pendulum is swinging east as China roars

The backlash against globalisation – tensions have emerged across the geo-political landscape that are threatening to cause a major shift in the global status quo as we have known it

Dynamics of trade in a flatter world – as the east rises to compete head on with the west, the global institutions will face competition with the interests of developing nations at heart

FUTURE WORLD CITIZENS

Changing family unit – our notion of what constitutes the typical family unit or household has changed, which is influencing how people shop, live, and consume food

Millennials are the consumers of tomorrow – and as such are shaping the future direction of the world

Increased urbanisation – as urban areas expand, the way that people live in cities is changing, causing new trends to emerge in food markets

The ageing generation – people aged over 65 represent the fastest growing segment of the global population, putting increased pressue on younger generations

The middle classes – unlike the past where it was the poorest and most repressed who revolted, it will be the emerging middle classes who will shape the future direction of the world

Local is the new global – the rise of the demand for provenance is increasing as consumers want to eat food that is produced locally

Facebook is influencing what we eat – looking good has never been so important in an era where millennials are always switched on thanks to social media

Food is getting scarier – trust in food has never been as low, thanks to a series of recent food scares

Sugar is the new tax – as consumers desire healthier food, the number of overweight people has never been greater

Meat – demand for meat in the developed world has peaked and is beginning to decline; how we consume it is also changing

COMPLEX FOOD CHAIN

Dairy – as the demand for protein increases, we have to turn something we cannot eat (grass) into milk, to give the world's population access to protein

Life is busier – the typically busy life of the modern consumer and desire for more leisure time has given rise to a need for more convenient food offerings

The evolution of the Irish fridge – travel and celebrity chefs are shaping what is now the norm in our fridge

ACCESSIBLE PROTEIN

The rise of the foodie – with less income spent on food, consumers view food as an experience rather than just a basic requirement

Words: Eoin Lowry and Lorcan Allen

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IRISH FARMERS JOURNAL

LS NGS?

The world is changing at an enormous pace, with the global status quo we have lived with for decades coming under increasing pressure

We live in a world where hardly a day goes by without escalating tension in one region or another, be it Ukraine, Syria, Iraq, or Nigeria. At the same time, many emerging economies are achieving sustained and rapid growth at unprecedented rates, while developed western economies still battle to get back to a stable growth track after the global financial crisis. Meanwhile, millions of newly affluent consumers are seeking greater freedom and democracy.

The centre of economic influence appears to be returning east across Asia. With this shift, the effectiveness of global institutions that were created after the second world war is being challenged, as their structures are no longer aligned with the geopolitical influence countries and regions can exert in 2015. Globalisation is raising issues that are no longer defined by geographical boundaries of countries, and consequently require new regional responses to regulation. This is a challenge that old world structures are struggling to meet.

The global status quo we have lived with for decades is coming under increasing pressure due to the emergence of new developed economies, regional and religious tensions, and the long-term impact of the global financial crisis. The world needs to create new structures and institutions to equip it to handle these new problems, and deliver greater security and certainty to communities across the globe.

Stimulating global growth

The EU has finally implemented its long-awaited quantitative easing programme, which is boosting the competitiveness of Irish exports

Since May 2014, the value of the euro has declined by almost 25% against the US dollar, the single currency's biggest fall since its launch in 1999. There are two key reasons for this decline.

Firstly, the US economy kicked back into life during the second half of 2014 and is experiencing healthy growth, with an estimated 275,000 jobs a month created in the past year, the fastest pace since 2000. The dollar has strengthened on the back of this momentum along with the expectation that the Federal Reserve is about to raise interest rates for the first time since 2006. Secondly, Mario Draghi and the ECB have started their programme of quantitative easing (QE), which will see the ECB purchase €1.1 trillion in government and private sector bonds in an attempt to kickstart the struggling European economy.

The US was quick to start its QE programme in late 2008 and this could have prolonged the fact that the eurozone economy has been struggling to get off the ground. The ECB also hopes the QE programme will push inflation in the eurozone close to its target of 2% by 2017 and achieve price stability without the risk of deflation while at the same time maintaining rock bottom interest rates at 0.5%.

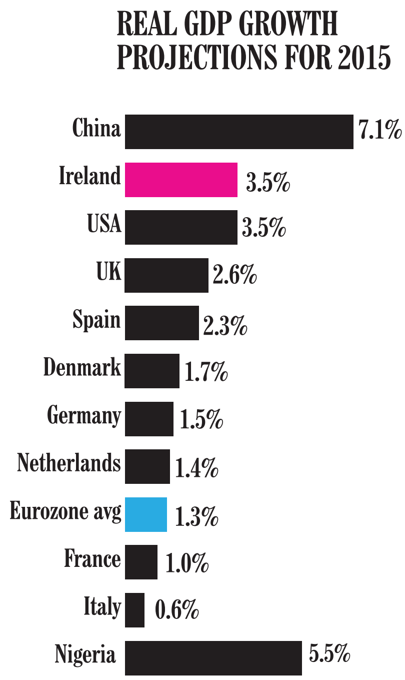
Although the value of the euro has depreciated significantly over the last year, it is not a major cause of concern for policy makers as it is seen as a necessary part of the QE programme. In contrast, the value of the rouble has plummeted in recent months and sparked a currency crisis in Russia, largely due to the falling price of oil and the economic sanctions imposed by the US and EU.

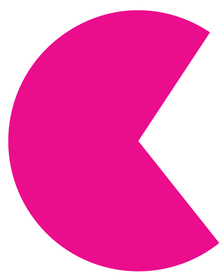
Just as the strength of the dollar and sterling is positive for the exports of countries in the western part of the eurozone, members in eastern Europe with a large trade exposure to the Russian market are suffering badly. Although the quantitative easing process is still in its infancy, it is hoped it will provide the economic kickstart needed in Europe.

The latest economic forecast published in February by the European Commission does indicate a brighter outlook for the European economy. For the first time since 2007, the economies of all 28 EU member states are expected to grow in 2015, boosted by the fall in the price of oil, the weakness of the euro and the start of the QE programme. The commission forecasts the EU as a whole to grow by 1.7% this year while the 19 countries that make up the eurozone will expand by 1.3%. While the commission expects all member states to achieve growth in 2015, the divergence in economic performance between individual member states is likely to continue.

For example, smaller economies in the eurozone such as Ireland, Luxembourg and Lithuania are expected to achieve solid economic growth above the EU average over the coming years in contrast to some of the larger and more important economies. Germany, Europe's largest economy, will grow by a sluggish 1.5% in 2015 and 2% in 2016, while in France the economy is projected to expand by 1% in 2015 and 1.8% in 2016. In Italy, another of Europe's largest economies, growth will be largely stagnant in 2015 at 0.6% before improving slightly to 1.3% in 2016. Encouragingly, the Spanish economy is forecasted to grow by 2.3% and 2.5% in 2015 and 2016 respectively.

Economic growth in the US will far outpace the eurozone average, with a forecasted 3.5% expansion in 2015 and 3.2% in 2016. The Chinese economy is projected to continue its slower growth cycle, expanding by 7.1% and 6.9% over the coming two years.





70%
OF IRISH FOOD AND DRINK EXPORTS GO OUTSIDE THE EUROZONE

-25%
Fall in the value of the euro against the US dollar since 2014

Impact

With 70% of Irish food and beverage exports destined for markets outside the eurozone, any fluctuation in currency rates has a direct impact on the competitiveness of Irish produce. The current decline of the euro is welcome news for Irish exports. For example, in the UK, the competitiveness of Irish beef is boosted. This effectively means the UK consumer is getting 5kg of Irish beef today for the price of 4kg this time last year, even though the farmgate price for beef is higher.

For cheese and butter going to the UK it is not as simple, and exchange rate changes cannot be taken in isolation. The local sterling price for cheese and butter almost immediately falls as imports flow in. Therefore, any gain in a weak euro is lost in the actual product price and the gain is neutralised.

Changing face of energy

Fracking is changing the face of oil supply around the world and has caused the price of oil to fall over 50% since last year

Falling oil prices

The story that has had the greatest impact on the world economy in the past 12 months has been the collapse in the price of oil. It is the primary input in almost every economy, any shift in price has far-reaching effects.

But the reasons for the decline of oil, which saw the price of Brent Crude fall to lows of $45/barrel at one point, are complex and reflect a shift in production dynamics within the industry. While the sluggish global economy consumed less oil than predicted last year because of a slowing China, the main reason for the collapse in oil prices is the oilmen of North Dakota and Texas.

Thanks to advances in drilling technology, oil speculators in the US are now extracting shale oil through fracking from enormous oil fields that were previously seen as unviable. Since 2010, these oilmen have completed circa 20,000 new oil wells (10 times the number in Saudi Arabia), which has increased US oil production by a third and reduced oil imports from OPEC producers by 50%.

With the increased supply of oil, many expected OPEC producers to cut production levels to push the price back up but the cartel has adopted a different strategy. The group has decided to maintain production levels in order to defend market share while at the same time attempting to put high-cost shale producers in the US out of business.

However, shale oil production is a relatively young technology and it is gaining efficiencies all the time, meaning the oilmen of North Dakota and Texas are here to stay. This means the fundamental economics of the oil industry are changing, shifting the balance of power away from OPEC and its control of high oil prices.

Europe's energy supply

The EU is the largest energy importer in the world, importing 53% of its energy needs at an annual cost to the region of €400bn. The euro area is currently enjoying the windfall of the fall in oil prices, which acts like a wage increase to consumers leaving them with more money at the end of the week. Even as the dollar has strengthened against the euro, consumers are still reaping a net benefit from low oil prices.

The other major energy source imported by the EU is natural gas, with 23% of Europe's gas supply coming from Russia. In February, the EU Commission approved proposals to establish a single European energy market, a plan that would give the Commission more influence to negotiate gas supply contracts as a single entity. The Energy Union plan is also partly designed to reduce European dependence on Russian gas, particularly given the tensions that exist at present between Moscow and Europe.

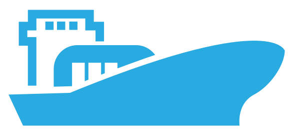
While oil and gas will continue to be the major energy sources into the future, the development of renewable energy technology is likely to continue at a greater pace than ever before. For instance, the state of California has set ambitious targets for the coming years, aiming to produce 33% of its electricity from wind, solar and other renewable sources by 2020. California is already producing more than 5% of its electricity from solar power, with seven new solar power plants brought online in the last 12 months.

The global biofuel industry is valued close to $100bn and is expected to grow in value to $180bn by 2022 thanks to the significant investment and expansion the industry has attracted in recent years, largely driven by government policy. But if oil prices remain at current levels, the economics of biofuel production are difficult to justify.

Thanks to advances in drilling technology, oil producers in the US are now extracting shale oil through fracking from enormous oil fields that were previously seen as unviable

This has contributed to a huge drop in the price of oil, which fell to $45/barrel at one point

Development of alternative energy sources such as biofuel and solar power is likely to accelerate, but the low price of oil is a challenge



The EU is the largest energy importer in the world, importing 53% of its energy needs at a cost of €400bn

Impact

The impact is twofold. Firstly, where oil is the backbone of an economy, the fall in prices has a direct impact on spending power. For example, Nigeria has been forced to raise interest rates and devalue its currency. In Africa, now a key emerging market for Irish exports growing at 9% last year, any fall in oil prices could directly affect economic performance.

On the other hand, cheap oil means energy costs for Irish businesses will reduce, acting like a shot of adrenaline for growth. After labour, energy is the second largest cost for Irish businesses. What may be more concerning is that the fall in oil may not be completely related to shale production and that the demand for oil has fallen back because the global economy remains sluggish.

POWER & INFLUENCE

EASTERN MOMENTUM

For most of recorded time, the world's largest economies were Asian but in recent times the West has dominated. The pendulum is swinging back east as China roars

Since 1945, the US has been the world's dominant hegemonic power, enjoying a global reach never before seen. It is the world's largest and often most dynamic economy, and this has underpinned its astonishing political, cultural and military power for more than half a century. Even during the cold war, the US economy was far more advanced than, and twice as large as, that of the Soviet Union.

However, are we now on the verge of a seismic shift in the global balance of power? The developed world – which for over a century has meant the West – is rapidly being overhauled in terms of economic size by the developing East.

For most of recorded time, the world's largest economies were Asian. The shift of the balance of wealth to Europe, and North America, is a relatively recent phenomenon driven by the rapid industrialisation and urbanisation of these countries from the late 1700s. The initial industrial revolution bypassed the major Asian economies, and their wealth and influence declined as increasingly wealthy Western countries entered an expansionary phase to fuel national ambitions. The global financial crisis, however, has confirmed the wealth pendulum is swinging back East, disrupting perceptions we have held of the global economy for the last 200 or so years.

It may be a long time before the economies of developing countries advance enough to match those of the developed world. In the aftermath of the financial crisis, the western world has been in economic stagnation, weighed down by enormous national and personal debt, while the emerging nations have rebounded quickly and continued their economic expansion.

China, India, Indonesia, Vietnam, Nigeria, Brazil and the Philippines are just some of the emerging economies that have enjoyed rapid economic expansion in recent times. According to the latest projections, developing countries in Asia and Africa will dominate global economic growth in the years ahead.

The improving economies of these nations coupled with their expanding middle classes means the buying power of the world is shifting east. And at the head of this shift is China. By 2025, it is projected that the Chinese economy will reach a par with the US, while by 2050 it is projected the Chinese economy will be the largest in the world and almost twice the size of the US economy.

Impact

With more than 50% of the world's population living in the East by 2050, countries such as China will exert more influence on the food we eat. While there is no doubt that Irish businesses cannot ignore the market opportunity this presents, perhaps the greater impact will be the East's ability to absorb dairy and beef products from countries such as NZ and Argentina, therefore reducing the share exported by those countries to the EU. This will present local opportunities to Irish agri-food businesses.

Pictured: The Bund in Shanghai.

Dynamics of trade

As China continues its rise to compete head-on with the US, the multilateral global financial and trading institutions will face competition from new groups with the interests of developing nations at heart

In the aftermath of the Second World War, a number of multilateral institutions, including the International Monetary Fund (IMF) and the World Bank, were established as a result of the Bretton Woods conference to encourage greater economic co-operation between countries.

A third institution, known as the International Trade Organisation, was proposed to facilitate global trade but the organisation never became a reality after its creation was halted by US congress. Instead, 23 countries signed the General Agreement on Tariffs and Trade (GATT) in 1947, which would transform itself into the de-facto international organisation for trade.

The new international trading system facilitated by the GATT proved to be one of the shining successes of multilateral cooperation, with repeated talks between nations around tariff reductions, price dumping, trade barriers and economic development.

By the 1990s, member states realised that the GATT system was straining to adapt to a new globalising world economy. In response to this, member countries began the Uruguay round of talks which eventually established the World Trade Organisation after years of sensitive discussions, particularly around agriculture.

More than 120 countries signed the Marrakech Agreement, which established the WTO to deal with the regulation of trade between countries by providing a negotiating framework for trade agreements and a dispute resolution process to make sure participants adhere to such trade agreements.

The success of the WTO is grounded in its ability to provide a multilateral democratic forum for governments to cooperate globally and facilitate trade in a global marketplace. As the trade barriers and tariffs have come down, the economic development of the world has greatly improved, with greater cooperation between nations.

In 2001, the WTO launched the Doha round of talks as a follow-up to the Uruguay round aimed at making globalisation more inclusive with an emphasis on developing nations. However, the Doha round of multilateral discussions have dragged on for more than 13 years, leaving many countries frustrated by the stalemate.

As a result of this, a number of bilateral and plurilateral trade proposals have emerged, outside of the multilateral forum facilitated by the WTO. Examples include the proposed "mega-regional" trade agreements such as the Transatlantic Trade and Investment Partnership (TTIP) between the US and EU, and the Trans-Pacific Partnership (TPP).

Similarly, discussions around the proposed EU-Mercosur trade agreement recommenced in 2014, although issues surrounding food safety standards, traceability and animal identification are still major stumbling blocks.

Proposed trade agreements like these illustrate how Europe has shifted its position on trading with some regions. The EU has switched from blocking trade agreements to protect indigenous interests from rival low-cost markets to actively seeking major trading partners as it seeks to kickstart the wider European economy.

Asia is the market that every nation wants trade access to right now. Western countries view the rapid population growth and rising GDP in Asia as a potential cash cow, but the emerging economies of the world's largest continent, particularly China, have their own agendas.

On the back of its economic rise, China has sought to increase its influence on the international financial institutions created at Bretton Woods but it has found that the interests of the US and developed nations lie at the heart of these organisations.

In response, China has set about creating its own institutions to project its agenda on the international stage such as the Asian Infrastructure Investment Bank (AIIB) and the New Development Bank (formerly the BRICS bank) as alternatives to the US-dominated World Bank and IMF.

China has also set about creating its own bilateral trade agreements with strategic partners outside of the WTO forum such as the free trade agreements signed with New Zealand and Switzerland with a similar agreement with Australia close to being finalised.

As China continues its rise to compete with the US to be the world's leading economic power, the multilateral global financial and trading institutions we have always known will face competition from new institutions with the interests of developing nations at heart.

Hormones

As the US and the EU look to strike a deal on the TTIP agreement, the main sticking points during negotiations around agriculture have centred on hormones in beef and GM crops.

US policy makers are eager to open the European market fully to US beef but consumers here have always seen the growth hormones American farmers inject their cattle with as unsafe and dangerous.

With 90% of all US cattle injected with growth hormones, the EU implemented a ban on hormone-treated meat and meat products entering the market.

For similar reasons, the European Food Safety Authority (EFSA) banned the use of almost all GM crops in Europe since the first genetically modified plants were developed in the early 1980s. Earlier this year, the European parliament voted to lift the EU-wide ban, instead allowing national governments to impose their own restrictions.

However, most European governments remain firmly against GM crops and are unlikely to allow them to be used by farmers.

Impact

A more open global trading environment will present both opportunities and challenges for Irish agriculture. As an exporting country we must accept that free trade flows both ways. Individual sectors may at times lose out but the overall long term gain needs to be considered. Whatever the outcome from these international trade talks, the different production and regulatory systems must be taken into account in the negotiations.

The main sticking points around agriculture between the EU and US centre on hormones and GM. In the future if the EU is to initiate negotiations on a major trade deal with developing nations, the discussion will more likely focus on agricultural subsidies and protection where the poorer countries feel they are at a significant disadvantage.

120

Countries signed the Marrackech Agreement which established the WTO to deal with the regulation of trade between countries

23

Countries signed the General Agreement on Tariffs and Trade in 1947

The backlash against globalisation

Since the financial collapse of 2008, the developed economies of the western world have been caught in the midst of a seismic and turbulent economic recession that has dragged on from year to year

In response to the sudden financial collapse of 2008, the governments of some of the world's largest economies began implementing drastic and systemic budgetary readjustments to try and deal with the crisis. But after years of austerity policies, many major economies remain lacklustre and static, weighed down by high debts, weak consumer confidence and meagre growth levels.

As a direct result, tensions have emerged across the geo-political landscape that are threatening to cause a major shift in the global status quo as we have known it. In Europe, for example, voter dissatisfaction in many countries has led to the rise of populist political parties at the expense of mainstream parties.

Coupled with this, the economic policies implemented in recent years by many governments has been protectionist in many ways, with new trade barriers, greater immigration restrictions, closer scrutiny of the tax compliance of multinational companies and favourable employment policies for domestic workers.

Greater nationalism

What this all points to is a new trend with greater nationalism at its core and a backlash against the free-market ethos of globalisation that was the greatest feature of the 1990s and 2000s. The eurozone is a typical example of a market that benefitted hugely at first from the free movement of capital, labour, goods and services.

However, since the economic crash, reaching collective agreement on fiscal and economic policies between individual member states has been harder to achieve.

The fragmentation within the eurozone right now is most clearly seen in the simmering tensions between Germany and Greece. The solidarity that characterised the European Union since its inception has never been as weak as deep cultural divisions re-emerge between nations over monetary and economic policy.

The frustrations of the Greek people and their disillusionment with austerity policies and cutbacks helped the radical left-wing Syriza party sweep to a stunning victory in the country's general elections in January, promising to end austerity in Greece and to renegotiate the country's huge national debts.

Led by Alexis Tsipras, Syriza has been engaging with European leaders in recent months over a new recovery strategy for Greece, with the party using the threat of walking away from the EU and the common currency unless a compromise is reached.

Relations between Greece and Germany, Europe's weakest and strongest economies, have been particularly strained since Syriza came to power, with the new government claiming that Germany still owes Greece billions in war reparations for Nazi atrocities during WWII.

Greece is not the only country to display scepticism about its membership of the EU. The disquiet in the UK has grown to such a level that David Cameron has hinted that an in-out referendum over the UK's membership of the EU will be held by the end of 2017.

The stagnation of the European economy, the weakness of the eurozone and the gradual extension of European powers into the British justice and regulatory system has given rise to Euroscepticism among British voters and facilitated the rise in popularity of the UK Independence Party (UKIP).

Scottish referendum

Amazingly, the fabric of the United Kingdom itself came under threat last year when the Scottish people voted a referendum to decide whether to become an independent country.

Although the Scottish voted no, a union over three centuries old came close to breaking up and the constitutional future of the United Kingdom remains ambiguous.

To the east of Europe, Russia's annexation of Crimea from Ukraine evokes memories from the Cold War era as tensions between Russia and the West continue to deteriorate. The response from Europe and the US has been to impose a raft of economic sanctions on Russia that has strained its economy and helped create a currency crisis, with the rouble plunging to record lows over the last six months.

The Russian response to the sanctions has been to place an embargo on European food exports, which were valued at €11bn in 2013.

€11bn

Value of EU food exports to Russia in 2013. The trade embargo imposed in 2014 closed this market to EU economies.

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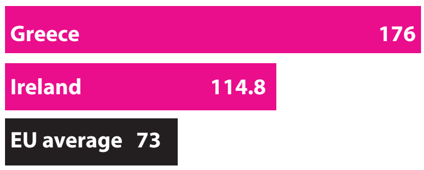

Debt as a percentage of GDP in Greece and Ireland compared with the EU average.

Impact

The stand-off with Russia demonstrates how quickly trade dynamics can change overnight and a major market can be shut down. Of greater relevance to Ireland, may be the future status of the UK within the European Union. As our largest trading partner, 40% of our food and drink exports depend on this market.

As an export-led nation and a small country on the periphery of Europe, we depend on good relationships with our trading partners. However, even though we are a neutral nation, we are part of a larger political and trading block.

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Case studies

How companies are affected by the big picture

Russian ban knocks FrieslandCampina profits

The Russian ban on Western agricultural produce hit the profits of the Dutch dairy cooperative FrieslandCampina to the tune of €80m in 2014.

Friesland's branded cheese volumes declined 14.5% due to the Russian boycott and increased competition on the European market as companies needed to find new customers for cheese previously destined for the Russian market.

This demonstrates how geopolitical tensions can have a significant influence on operations and performance. Despite its size as the fifth largest dairy company in the world, these factors are all outside its control and show the importance of having diversified markets and products to better insulate the business.

Lower energy prices boost profits at Yara

Yara, Europe's largest producer of nitrogen, enjoyed a strong fourth quarter thanks to falling energy prices. The fourfold increase in profits was a direct result of improved margins due to lower natural gas prices. Average European gas and oil costs were down 24% compared with the same period the previous year. Energy costs make up 80% of the cost of producing fertiliser.

European stocks boosted by weak currency

Over the past 12 months, the Glanbia share price has increased some 50%. This values Glanbia PLC at just over €5bn today and values the co-op's 41% holding at €2bn. Currency movement is one of the factors in the share price surge as the dollar has strengthened against a weakening euro. Glanbia has become more exposed in America recently, with €1.8bn or 52% of group revenue now coming from the US. This has increased from 43% in 2011.

The group processes almost 5bn litres of milk and 40,000t of cheese in the US. In 2013, currency headwinds saw the euro strengthening against the dollar by 4% and this reduced group revenues by 2.5%. However, in 2014, these headwinds turned into tailwinds and boosted reported revenues by 0.4%.

But it is not only Glanbia that is performing. The EU quantitative easing programme has injected new life across the continent's equities as foreign investors pour money out of the US and into the EU. Germany's DAX index has surged 16.8% since the start of the year and many other European indexes have also enjoyed double-digit gains. The rally has been driven in part by the appealing valuations of many European stocks.

Company agenda

1. If there is anything to be taken from the Russian trade embargo, it's the perils of placing all your eggs in one basket. European food companies with a major exposure to the Russian market were hard hit by the ban, emphasising the need to operate in a diversified range of markets.

2. With a number of mega regional trade deals under negotiation at the moment, the global trading environment looks set to become more open. As an exporting nation, this is undoubtedly positive for Ireland but businesses need to be prepared to deal with new competitors, often large-scale ones.

3. Even though businesses are reaping the rewards of currency tailwinds at the moment, it is important to be aware that tailwinds can turn into headwinds quite quickly and are outside the control of the industry. Tailwinds provide comfort but management must remain aware of cost at all times.

FUTURE WORLD CITIZENS

Words: Eoin Lowry and Lorcan Allen

POPULATION EXPLOSION

With the world's population expected to grow to nine billion by 2050, businesses will be presented with significant challenges on how to meet the expectations of young people

We are living at a time of significant demographic change. The world's population is expected to grow to about nine billion people by 2050, with the majority of the growth occurring in Africa. At the same time, the global population is more affluent, more educated and more aspirational than ever.

People are also more willing to relocate to realise their potential. Urban regions around the world are growing at a rate of more than one million people every week and this rate of growth is expected to continue for at least the next 30 years.

Birth rates are falling in many regions around the world, while life expectancy is increasing. Half of all the people that have ever reached the age of 65 are alive today; and it is forecast that, by 2035, there will be more than 1.1 billion people exceeding the age of 65. The working-age population has already started to decline in Japan and some European countries (a trend expected to become much wider by 2030), leaving a shrinking labour force to support an increasingly large elderly population.

The next 30 years will also see the first generation of citizens born in a technology-enabled world grow into adulthood, with different lifestyle and relationship expectations. Many emerging economies will continue to have a significant proportion of their population aged under 20, presenting significant challenges around how governments manage and meet the expectations of their young people.

Millennials – consumers of tomorrow

Millennials are shaping the future direction of the world. The greatest challenge will be for businesses to adopt models that reflect their ethical value system

The economic rise of the developed world coincided with the time of the baby boomers, an optimistic generation born between 1946 and 1964 that grew up with improved living standards, television, rock'n'roll music, divorce and early advances in technology.

They were also the first generation to view retirement as a stage of life to enjoy and look forward to.

The baby boom generation was followed by generation X (born between 1965 and 1979), a cohort with many similar traits to the baby boomers, growing up with the Vietnam War, the fall of the Berlin Wall and the mass marketing of the personal computer.

While both of these generations had a major impact in shaping our modern society, it is generation Y or the millennial generation (born between 1980 and 1999) entering the workforce today that is likely to have the greatest effect on businesses, the economy and society as a whole.

Millennials, or "digital natives" as they are often described, comprise 1.8 billion people or 25% of the global population. This generation is changing the face of the modern workforce in the hours they work, the flexibility of the jobs they want and the technology they work with.

They are a generation that do not switch off, and with easy access to emails, smartphones and tablets, they can easily connect with work colleagues at weekends, when they're out of the office or abroad.

Always on

Millennials are the first generation to have grown up not knowing a world without the internet and mobile phones. Technology influences their lifestyle, values and beliefs unlike any previous generation. More than 85% of millennials in the US own a smartphone, interacting with them 45 times per day on average.

At the same time, they are shaping up to be the most educated generation in history, with greater access to third-level education than ever before. For example, third-level student numbers increased by 105% in Ireland between 1990 and 2004.

Millennials are a generation with enormous buying power, firstly through the financial support of their baby boomer, and generation X parents and then their own increasing earnings. The buying power of millennials in the US is estimated at $1.3tn.

They are vocal consumers and early adopters and influence the purchases of others. Thanks to their constant connectedness, 95% believe peers and friends are the most credible source of product information.

Previous generations defined themselves through music, sport, fashion, TV, politics and celebrities. But the millennial generation has added food and drink to that list.

Millennials are spending more and more of their disposable income on shared food experiences, dining out in cheap casual settings as opposed to formal restaurants. They collect food and drink experiences the same way previous generations talked about travel, the latest fashion or a new CD and share these experiences with their online connected audience on social media.

Coca Cola's "share a coke" campaign is a typical example of a marketing strategy aimed at the millennial generation and their preference for shared experiences.

Iconic brands

Many of the world's iconic brands have come under pressure in recent times, particularly in the backdrop of a financial recession. It is often said that the millennial generation is averse to brands but, in reality, they will engage with brands as long as they feel the brand reflects their own values and beliefs.

Millennials will connect with brands through affiliation with a cause so a brand that shows it cares is attractive to this generation. For example, Starbucks has an ethical sourcing policy which includes supports for farmers and forest conservation programmes.

They are willing to pay a premium for brands with an awareness of the environment and sustainable production that matches their own value system.

They are ethical consumers, bordering on consumer activists, where ethical products are favoured through positive buying, while unethical products will be morally boycotted.

Some of the world's largest companies, such as Coca Cola, Nestlé and Unilever, have all taken steps to align themselves to sustainable business models to win over the millennial generation.

GENERATION X
Those born between 1965 and 1979, who grew up with the Vietnam War, social problems with drugs and the mass marketing of the personal computer.

GENERATION Y
Millennials are changing the modern workforce. They have huge buying power and food and drink are two areas through which they define themselves.

This is the first generation that has grown up with the internet and mobile phones. Facebook has 1.4 billion users.

Third-level student numbers increased by 105% in Ireland between 1990 and 2004.

There are 1.8 billion millennials in the world – 25% of the global population.

Impact

Millennials are shaping the future direction of the world. The greatest challenge for businesses will be to adopt models that reflect the ethical value system of millennials.

In this connected, always-on world, millennials are deeply informed. At the touch of a button, a world of information and data is instantly accessible.

As a result, millennials hold a greater level of power over corporations than previous generations. Corporate and social responsibility is likely to become critical to success while businesses also need defined digital and social strategies.

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Changing family unit

Over the past 50 years, we've seen fundamental change in the shape of the household unit around the world

In Ireland, one in three families departs from the so-called traditional model of a married couple, both of whom are in their first marriage. As a result, one in four children under 21 years of age lives in a family that does not conform to this model.

Never-married couples, cohabiting couples and lone mothers (both never-married and divorced or separated) dominate the alternative family structures of modern Ireland.

The number of families in Ireland has increased by 57% since 1991 to just under 1.2 million. Growth in the number of families was reasonably steady between 1990 and 2002. This was followed by a period of rapid growth from 2002 to 2006, with an average increase of 3.3% per year.

Over the same period, the average household size decreased from 3.3 persons to 2.7, driven by the growing number of one-person households and falling family size. In 1991, there were two children, on average, in each family. By 2011, this had fallen to just below 1.4 children per family.

US families

In the US, the number of households more than tripled between 1940 and 2010 – from 35 million to 117 million. And household growth is outpacing population growth.

Accompanying this growth in the number of households has been a gradual but significant transformation of household structure similar to Ireland.

The proportion of one-person households increased between 1970 and 2012, from 17% to 27%, while the average number of people per household declined from 3.1 to 2.6.

Since 1980, the pace of change has slowed but the transformation in household structure has continued, particularly the decrease in married couples with children and the increases in both cohabiting couples and one-person households.

During the next 20 years, the decline in married-couple families with children will accelerate as more baby boomers reach retirement age, creating a new generation of empty nesters.

China's little emperors

In the 1940s, the Chinese family was described as four generations under one roof, large, multigenerational and united. But, in modern China, that image is fast becoming quaint.

Chinese families have been getting smaller for decades. Before the 1950s, the average household in China had more than 5.3 people. Today that number is below three.

The Chinese one-child policy was first implemented in the late 1970s. Instead of the usual bottom-heavy structure, one child is now supported and brought up by two parents and four grandparents, resulting in an inordinate amount of attention and pressure placed upon the child.

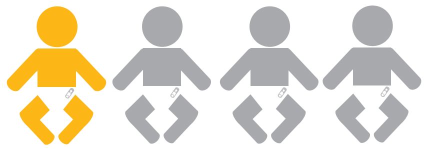
With only one child available to succeed and support them in their old age, parents and grandparents aim to be even more in control of their child.

Under the sole focus and care of so many family members, Chinese children of the post-1980s generation have acquired a reputation for being spoiled and self-centred, better known as little emperors.

Three demographics increasingly stand out: unmarried young workers, couples who have delayed or foregone childbirth and elderly empty-nesters.

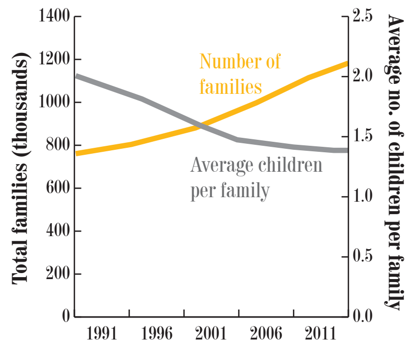
A total of 160 million Chinese households, or 40%, now consist of just one or two people. In urban areas, almost half of unmarried people live alone.

In conclusion, 2.4-child families are a thing of the past and the nuclear family is an outdated model. The emerging consensus now is that family is an idea and not an institution.



One in four children under 21 years of age lives in a family that does not conform to the "traditional" model.

FAMILY SIZE 1991-2011



57%

the number of families in Ireland has increased by this amount since 1991 to just under 1.2 million.

Stay-at-home fathers

Some 11,000 men in Ireland consider themselves to be SAHDs. This is almost double the 2001 figure when just 5,700 men stayed at home. It's a trend that can be seen across the globe. In the US, for example, the number of stay at home dads has doubled since 1989 to almost two million. In the UK, there has been a similar trend.

With more men doing the weekly shop, the challenge for businesses is to adapt their branding and marketing to appeal to this demographic.

Impact

As the notion of what a family unit or household is has changed dramatically, this is not only changing how people shop but how they consume food.
The traditional family meal has all but disappeared, replaced by more frequent dining out. With more people living alone they are dining out to socialise but remain conscious of price point, opting for more casual food that is cheaper.

Increased dining out has reduced the household spend on groceries. Supermarkets are having to adapt their models to the modern consumer, who is now shopping little and often. They are also buying less raw ingredients in favour of convenient, pre-prepared products.

The Chinese one-child policy was first implemented in the late 1970s. One child is now supported and brought up by two parents and four grandparents


Toplink.ie

World moves to the city

As people move to the city, the way people live and what they eat is vastly different to their rural cousins

Every week, it is estimated that 1.3 million people move into a city around the world. This is 68 million people per year or the equivalent of creating a city of the population of Dublin every week.

In 1950, less than one-third (30%) of the global population lived in an urban centre. In the intervening years, people have migrated towards the urban centres and, today, more than half (54%) of the world's population now reside in an urban area. This process of urbanisation is set to continue over the coming years and it is projected that two-thirds (66%) of the global population will live in urban centres by 2050.

Today, the most urbanised regions are North America, with 82% of the population living in cities, Latin America/ Caribbean (80% in cities) and Europe, where 73% of the population live in urban areas.

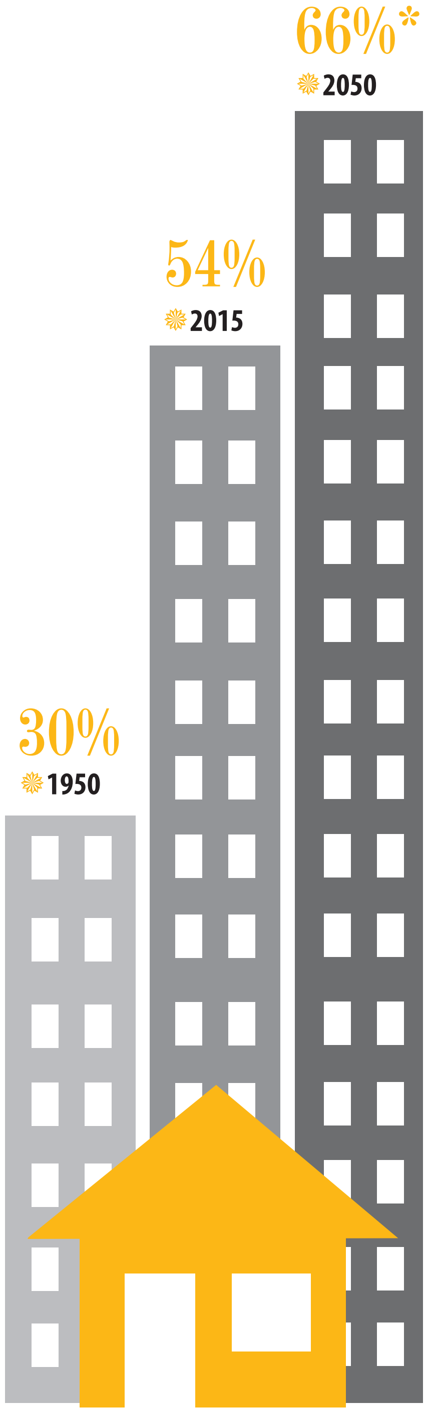
In contrast, Africa and Asia remain mostly rural, with 40% and 48% of their respective populations living in urban centres. The global rural population is close to 3.4 billion, with 90% of these people situated in Africa and Asia.

Naturally, the future increases in global urbanisation will be led by these regions. By 2050, the UN estimates the urban population in Africa and Asia will have increased to 56% and 64%, respectively. In fact, just three countries – India, China and Nigeria – are expected to account for 37% of the projected growth of the world's urban population between now and 2050.

The rise of the mega cities

In 1990, there were just 10 megacities (urban areas with greater than 10 million inhabitants) which were home to 153 million people. Today there are 28 boasting a collective population of 453 million. And it is projected that, by 2030, there will be 41. In the past, these megacities were predominantly found in the more developed regions of the world, but today's are concentrated in Asia and South America.

While Tokyo is the world's largest city with 38 million inhabitants, China holds the title of having the most megacities. It has five, including Shanghai (24 million) and Beijing (21 million). This compares with three in India, two in the US, Japan, and Brazil, and one in 14 other countries. China also has 14 cities with over 5 million people, whereas the US has eight, India seven, Japan and Brazil three, and 31 other countries have one. This means China has a fifth of the world's five-million-person cities. It also has 41 cities of over two million people, along with over 100 built up areas of over one million people.



PERCENTAGE OF GLOBAL POPULATION LIVING IN AN URBAN CENTRE

* Projected urban population

Impact

As urban areas expand, the way that people live in cities is changing. As the cost of space increases, the average size of apartments will continue to get smaller. With less space, decisions have to be made about the critical facilities incorporated into a home. With a fully equipped kitchen being space intensive, urban homes are often being developed with little more than a basic kitchenette.

In addition, many urban dwellers are increasingly time poor, as they split their time between commuting, working and socialising with family and friends. This brings significant implications for the way people will buy and consume food in cities in the future, demanding more innovation in food.

Less ability to prepare and cook food will mean that more people will buy processed and prepared food products, as well as eating out more often.

The increase in demand for processed and ready-to-eat products in emerging markets will result in a shift towards formal retail channels and away from wet markets, as consumers place a greater emphasis on food safety.

A further consequence of more people living in cities is the deterioration in the environment – notably air and water pollution. This will create an increased demand for healthy and nutritious food, placing a strong focus on innovative fruit and vegetables that are easy to consume and can deliver proven health benefits.

At the same time, consumers will be demanding a greater variety of choices reflecting the wide mix of ethnicities in a city's population. But perhaps the greatest effect of people moving to the city will be their access to westernised food.

With more disposable income, they will be introduced to new categories that were not traditional in rural areas. It may be through these already strong global brands that Irish agrifood companies have the greatest opportunity to penetrate these highly competitive markets.

There are 28 mega cities in the world, including Tokyo, the world's largest city with 38 million inhabitants.

THE AGEING GENERATIONS

People aged over 65 represent the fastest-growing segment of the global population

Over the next three decades, the global population is forecast to swell to more than nine billion people, driven mainly by population growth in Africa and Asia. At the same time, the population structure of many societies will also undergo a significant transformation.

People aged over 65 represent the fastest growing segment of the global population; their numbers are expected to double to more than 1.1 billion by 2035 (which will represent 13% of the global population).

People are living longer than ever before thanks to advances in medical science, better nutrition and improved standards of living. According to the latest World Health Organisation (WHO) report in 2012, the average global life expectancy at birth is 70 years compared with the average in 1990, which was 64 years. The improvement in life expectancy has been most notable in low-income countries, with nine years added to average life expectancy between 1990 and 2012.

However, in some parts of the world, mainly developed nations, birth rates are below replacement levels, meaning the future labour force of these regions will be under massive strain to provide for an expanding elderly population.

In Europe, for example, population growth is stagnant in most countries and actually in decline in others. This decline in European fertility rates is occurring at a time when the continent's elderly population is rapidly increasing due to the ageing of the post-war baby boomers. Currently, there are 87 million people aged 65 or more living in the EU and this is projected to reach 148 million by 2050.

The present population structure of the EU is well balanced, with 66% of the total population between 15 and 64 years of age. However, due to consistently low birth rates and higher life expectancy, the age structure of Europe is changing rapidly, with the proportion of people of working age (15 to 64 years) projected to shrink to 57% of the total population by 2050.

At the same time, the share of the population aged 65 years or over will swell from 18% at present to over 28% by 2050 as more of the current working population reach retirement. Recognising this shift in demographics, the EU Commission has developed a number of strategies to meet the challenge of providing for a larger elderly population.

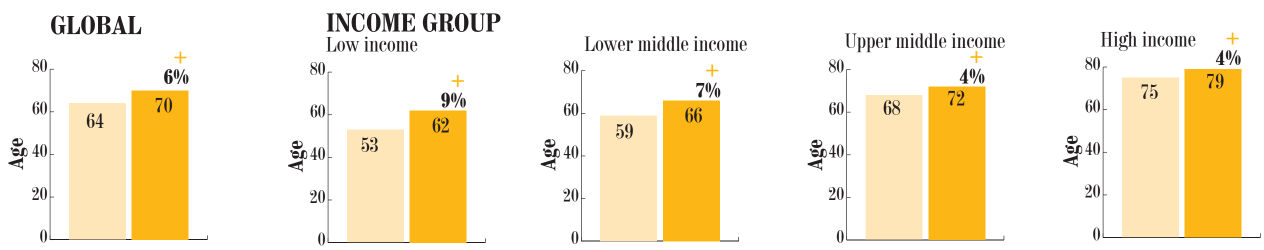
While Europe and other developing nations may be experiencing a stagnation in population growth, the rising economic powers of the world in Asia and Africa are not. But while these countries are experiencing substantial population growth now, research from the United Nations suggests that fertility rates in these countries is falling and will eventually come in line with the developed world.

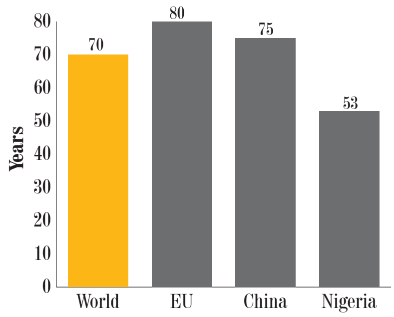
If this is the case, it is likely that the future population structures of these countries, and the world as a whole, are heading the same direction as Europe. But the fertility rates of countries in the developing world are declining at a far greater pace than the decline seen in developed nations over the past 20 years.

71m

German population forecast to drop from 81m today to this figure in 2050.

AVERAGE LIFE EXPECTANCY: 1990 V 2012





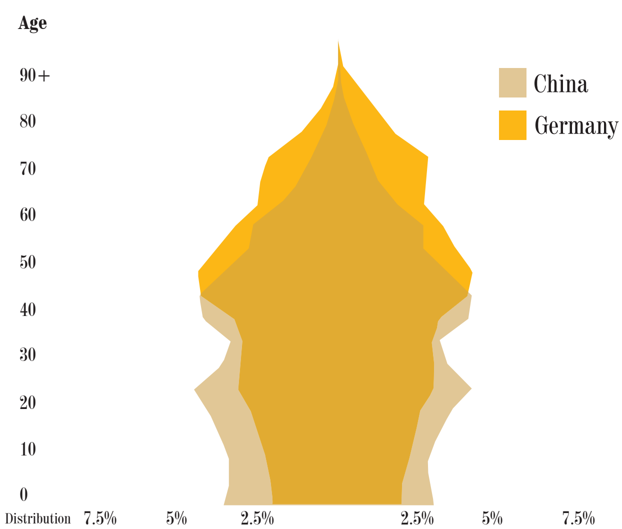
56%

EU population between 15 and 64 years to shrink from 66% to this level by 2050

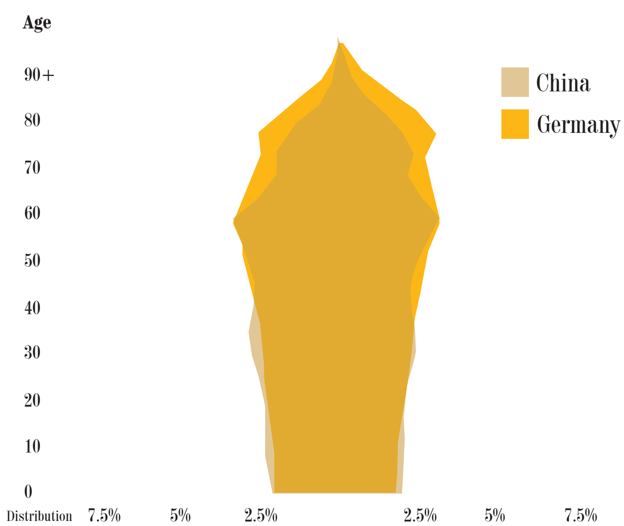
Impact

Our image of what an old person is must change. This is the generation that holds a lot of the wealth, is increasingly active and has plenty of time. It creates a significant opportunity for Irish agri-food businesses to develop products for this growing demographic that appeal to the health needs of an ageing population. The market is immature which presents opportunities. As people live longer they will demand different types of food, fortified with vitamins and other health attributes.

2015 POPULATION PYRAMID: CHINA-GERMANY COMPARISON



2050 POPULATION PYRAMID: CHINA-GERMANY COMPARISON



FUTURE WORLD CITIZENS

Middle-class wealth widens globally

The buying power of the world is gradually moving east as the middle class population in the developing world continues to expand

History has been shaped by the most repressed citizens within countries rising up and rebelling against the ruling classes. However, it will not be the poorest communities that stand up for change in the next 30 years; it will be the emerging middle classes (a middle-class consumer is considered to be somebody earning more than US$10 a day, or US$4,000 a year). Forecasts suggest that the number of middle-class consumers in the world will increase from around 2bn today to around 4.9 billion by 2030.

This will result in around three billion additional consumers who will have sufficient income to have some discretion in how they spend their money; consumers who are no longer buying food purely for subsistence purposes, but purchasing products and services because they add something to their lifestyle.

Newly empowered consumers will have greater access to knowledge than any previous repressed social group in history, enabling them to contrast their personal circumstances, and particularly their economic and democratic freedom, with others around the world.

The bulk of this growth will come from Asia. At present, Asia represents 28% of the global middle class population and 23% of middle-class consumption.

By 2030, these figures will rise to 66% and 59%, respectively. China alone accounts for 12% of the global middle class, which will increase to 20% by 2030.

India, the world's second most populous country, accounted for just 1% of the global middle class in 1990 and accounts for 5% today. India's middle class population is projected to grow steadily over the coming years, reaching 200 million people by 2020. After this, however, growth is predicted to accelerate, with India's middle class set to reach 475 million by 2030, representing 29% of the global middle-class population.

As the middle class populations of these developing nations increases, the developed world's share will contract. For instance, in 1970, middle-income citizens in the US accounted for 24% of the global middle classes. By 1990, this had dropped to 18% and it currently stands at 11%. Amazingly, by 2030, US middle-income citizens are projected to account for just 4% of the global middle-class population.

The situation in Europe is similar to that in the US. In 1970, Europe (including the UK) accounted for 46% of the global middle-class population before falling to 39% in 1990. Today, European middle class citizens represent 27% of the global population, although this share is predicted to contract sharply over the coming decades to stand at 12% by 2030.

Newly-empowered consumers will have greater access to knowledge than any previous repressed social group in history.

Impact

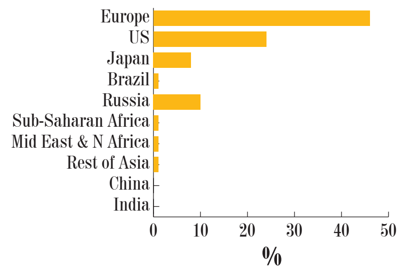
The developing world's emerging middle class is shifting the buying power of the world to the east. But many of the people in developing economies joining the middle classes today are still a long way behind their western counterparts in terms of actual buying power because their percentage of truly discretionary income is lower.

In China and India, for example, about 40% of the average household income is spent on food and transport, compared with 25% in the US. While tastes are often localised, brand awareness in emerging economies is generally strong from consumers who want access to a variety of products at different prices, including products they aspire to but can't currently afford.

PERCENTAGE SHARE OF GLOBAL MIDDLE CLASS: 1970 TO 2030

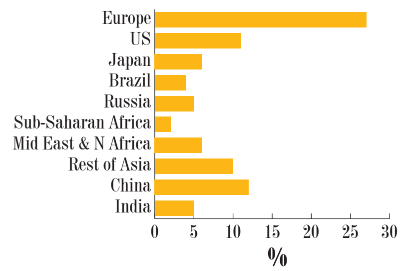
In 1970, the majority of the middle class lived in the developed world, particularly Europe and the US...

1970



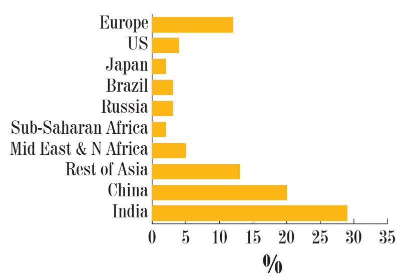
Today, increasing numbers of middle classes live in developing countries as more people move to urban areas to pursue better lifestyles...

2015



By 2030, the majority of the world's middle classes will live in Asia...

2030



AGRI BUSINESS

Case studies
Marketing for millennials

Meeting nutritional needs of ageing population

One of the main reasons people are living longer is due to better nutrition. Food giant Nestlé has been producing nutritional products targeted at the elderly since it acquired the medical nutrition division of Novartis in 2006 for $2.5bn.

Nestlé offers nutritional solutions for people with specific illnesses, diseases or age-related nutritional needs. Much of the nutritional science behind these products is similar to that behind infant formula.

Nestlé's nutrition and healthcare accounts for 13% of total group turnover. The division grew by 9% in 2014, with 21% profit growth.

China's addiction to luxury goods

The expanding wealthy middle class in China has developed a fondness for expensive western brands, so much so that China will soon become the largest market for luxury goods, accounting for 20% of global demand.

Apple now ranks as the most coveted luxury brand in China, ahead of the likes of Louis Vuitton, Cartier and Hermès. Last month, Apple announced it had sold more iPhone units in China than in the US for the first time.

Greater China accounts for 29% of Apple's total sales, compared with 37% for the Americas. Revenues in China increased 71% in the three months to March 2015 compared with the same period last year, with just 19% growth in the Americas.

M&S dine-in offer

In response to the changes in family size and more people living alone, Marks & Spencer has been selling easy-to-cook ready meals since the 1980s, with almost 40% of British households consuming one or more of them a week.

The chilled prepared food market in the UK has grown exponentially over the years and was worth £12.3bn in 2014. M&S has drawn in busy consumers living alone or in a small family home with convenient offers, such as its dine-in deals for two with prices as low as €14.

The success of its prepared meals offering means that food now accounts for 55% of M&S's total business.

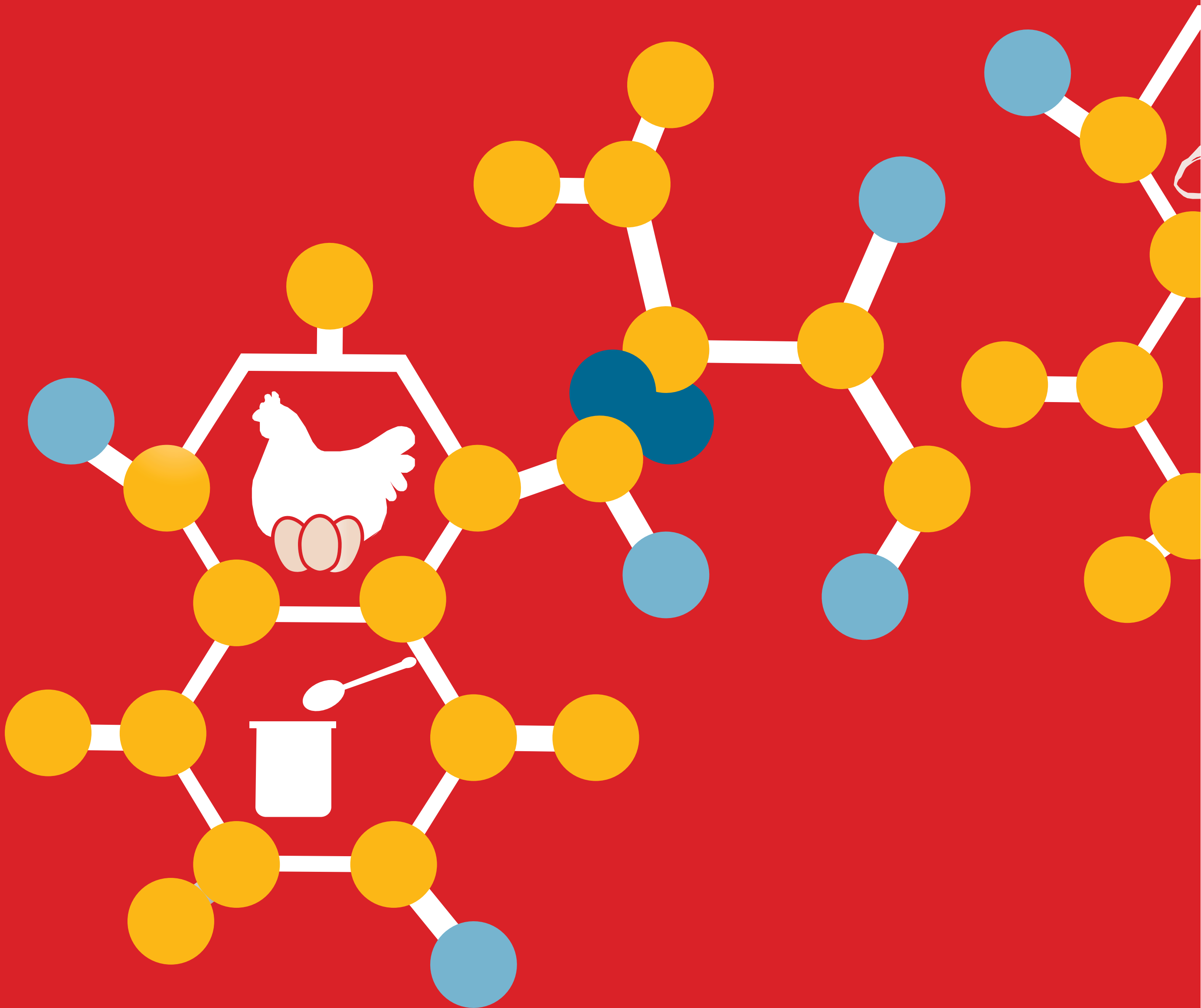
Company agenda

1. Even though China has huge potential for Irish food exports, perhaps the greatest potential is for luxury and premium brands of food. For example, the perceived wisdom is that meat demand in Asia is for offal and lesser-quality cuts. But if the wealthy Chinese have an appetite for luxury, then perhaps we should be exporting premium cuts of steak instead.

2. The fastest-growing segment of the global population is people aged over 65. The demand from this demographic is for nutritional, natural food products that will preserve their good health. The focus up to now has been on sports nutrition and infant formula, but creating nutritional solutions for the ageing generations may have strong future growth potential.

3. For years now, millennials have baffled companies, brands and marketers alike. Businesses need to change the way they market to this generation, but also need to be prepared to accommodate them as future employees in the hours they work, the flexibility of their roles and the technology they expect to work with.

Words: Eoin Lowry and Lorcan Allen



PROTEIN BREAKDOWN

KPMG
IRISH FARMERS JOURNAL

There is a huge appetite for protein in emerging economies, while busy, on-the-go consumers in the West are eating protein differently

The way the world accesses and consumes protein is changing. With up to 90% of our dairy and beef production leaving this island, the meat and dairy sector, at €6.7bn, accounted for almost two-thirds (60%) of our Irish food and beverage exports valued last year.

The majority of future demand growth will come from emerging economies. Meat consumption has doubled in China over the last 20 years and, by 2030, its consumption of meat, dairy and eggs is expected to increase a further 50%.

With the majority of our beef exports destined for the UK and European market (97%), the type of meat we are eating is changing. Red meat is losing out to cheaper alternatives, such as chicken and pork, while the gourmet burger is knocking the 8oz fillet off the restaurant table.

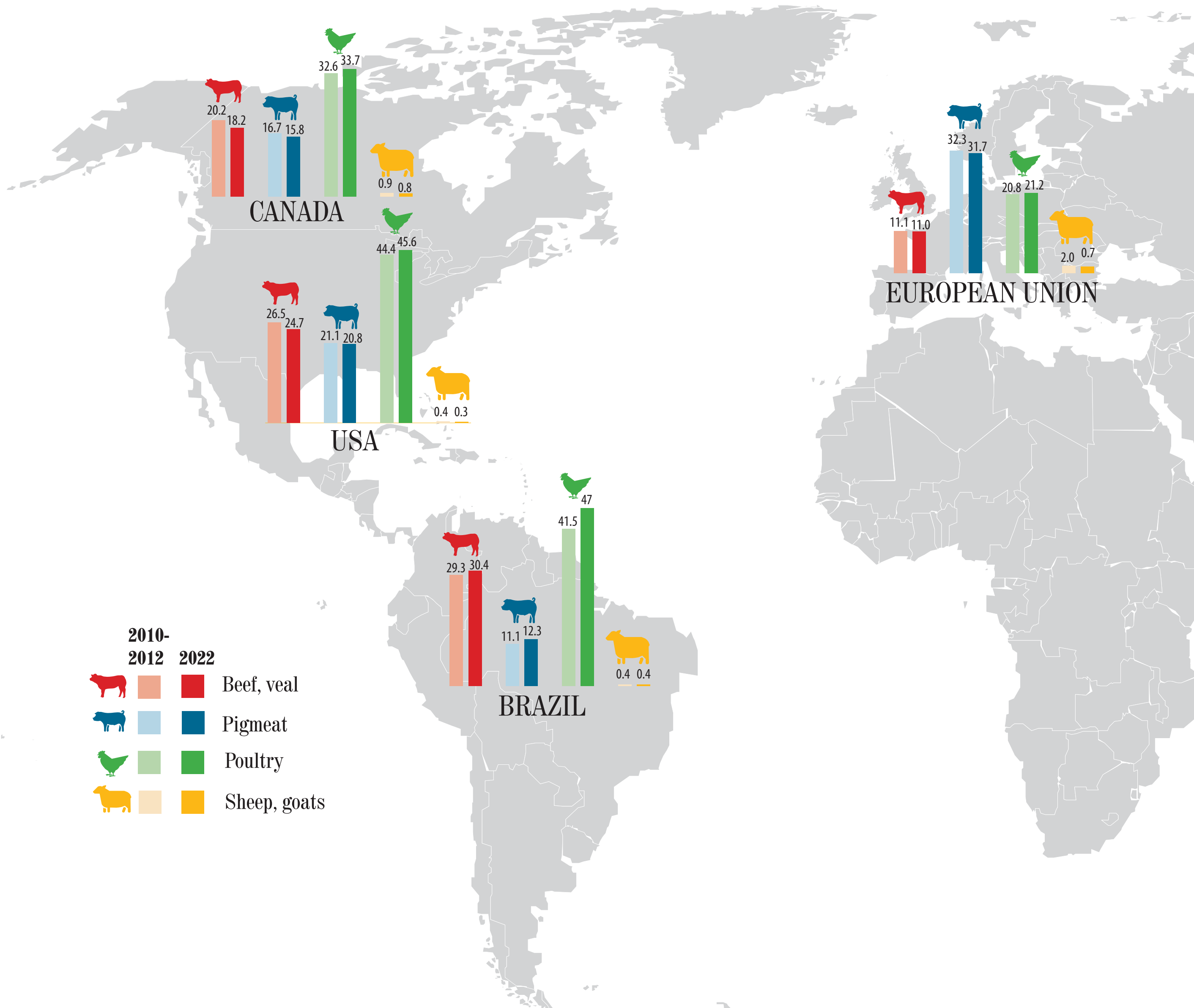
With dairy quotas now lifted across Europe, the majority of Ireland's 50% expected increase in milk will need to be exported outside of Europe. In Europe, dairy consumption is stagnant as we now prefer to eat our dairy rather than drink it.

And the way the developing world accesses protein will be much different to what we have become accustomed to. With different cultures, religion and social habits, it will be companies such as Starbucks and McDonald's that will introduce the new middle classes to the new categories, such as beef and dairy protein in the form of burgers and coffee.

With as little as 16% of Irish beef consumed domestically, it has never been more important to realise that if we want to compete on the global stage, we must innovate. The challenge for businesses will be to continuously develop new products that appeal to the western consumer, while also tapping into the growing demand in emerging economies.

GLOBAL MEAT DEMAND

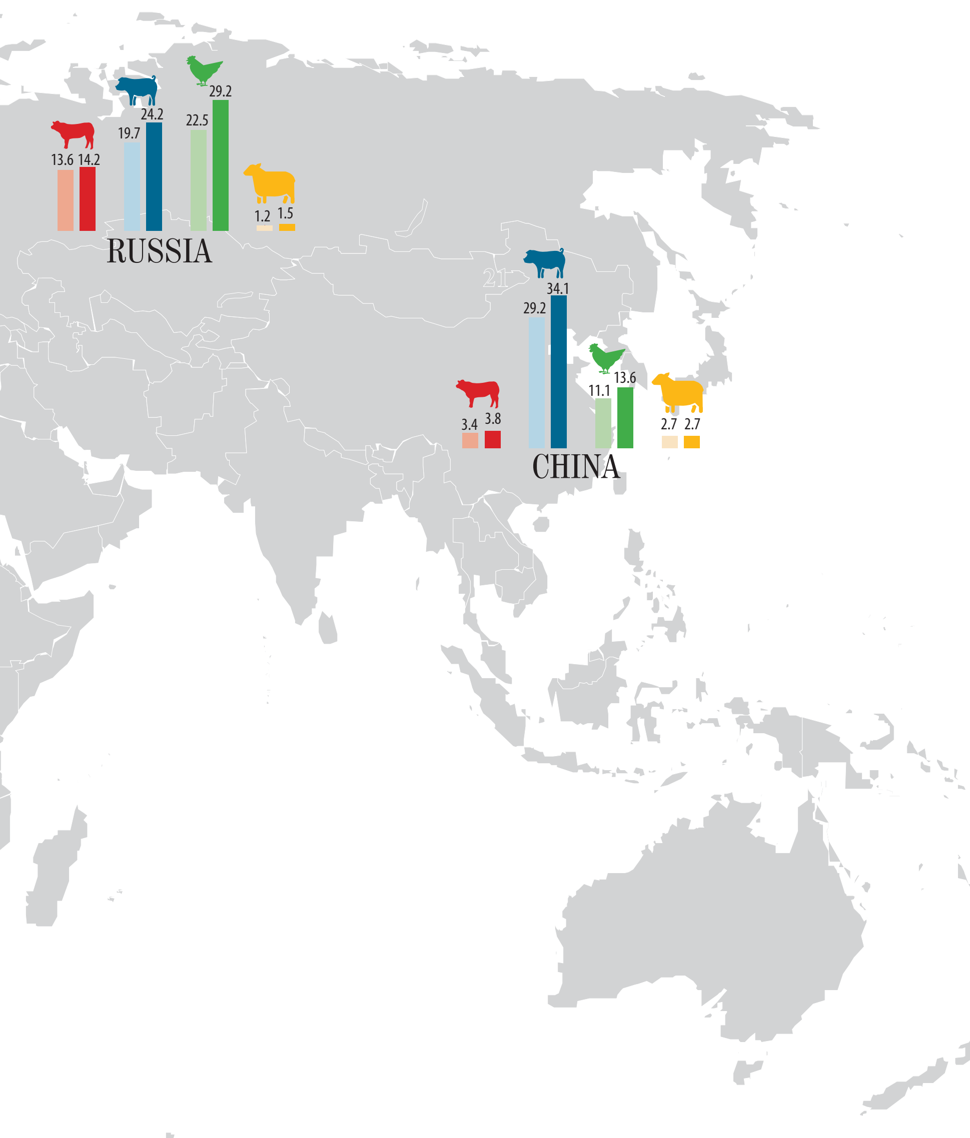
Average meat consumption (kg) per capita – 2010-2012 and 2022



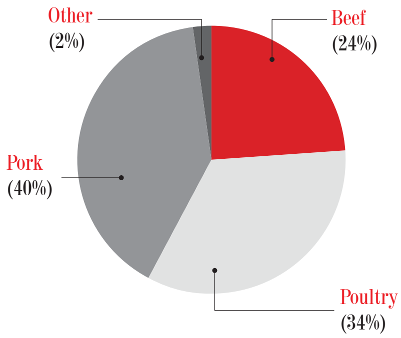
MEAT CHANGES IN CONSUMPTION

Global food consumption is to grow by 70% over the next four decades, thanks to the emerging middle classes in Asia, Africa and South America

Over the past 50 years, global meat consumption has nearly doubled, with the average person now consuming 43kg of meat per annum. Unsurprisingly, people in the developed world eat more meat, consuming an average of 79kg compared with an average of 33kg in the developing world.



GLOBAL MEAT CONSUMPTION



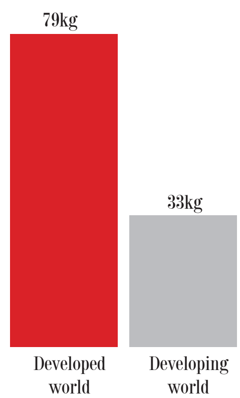
Pork and chicken are the most popular meats, accounting for 75% of all meat consumed.

80% **Of future demand for meat will come from Asia, Africa and South America.**

PER CAPITA MEAT CONSUMPTION

kg per annum

The developed world eats almost 2.5 times more meat than the developing world



While the majority (80%) of future demand growth will come from the expanding middle classes in Asia, Africa and South America, meat consumption in the developed world will remain stagnant or even fall in some countries as both health trends and price work to discourage demand.

The rise of cheap protein

Some types of meat are better placed than others to meet the increasing demand. The production and consumption of pig and poultry meat is expected to grow at a much faster rate than beef in developing economies as consumers have a greater appetite for cheap meat.

By 2022, almost half the additional meat consumed in the world will come from poultry. Large-scale, vertically integrated production systems make poultry and pork far more cost-effective to produce as they utilise feed well and can be kept in a confined space. Today, almost two thirds (60%) of the world's agricultural land (30m sq km) is used for beef production, yet beef makes up just a quarter (24%) of the world's meat consumption. In contrast, poultry accounts for 34% of global meat consumption and pork accounts for 40%. And even though combined they make up 75% of world meat consumption, poultry and pork production takes up only 10% the footprint of beef.

In China, meat consumption has skyrocketed, increasing sixfold over the last 40 years. Pork is the predominant meat consumed and now accounts for half of world pork production and consumption. The Chinese consume 29kg of pork per capita per year, but poultry is gaining in popularity (11kg/capita), as a cheap and convenient source of protein.

Beef is rarely consumed, with only 3kg per capita eaten – just 10% of the amount consumed per head in Brazil.

In western economies, particularly the US and Europe, beef is seen as the meat of choice for the celebration dinner – be that the Sunday roast or wedding banquet.

However, the economic recession was hard on beef consumption as hard-pressed consumers and restaurants tightened their belts and moved to cheaper cuts and alternative proteins.

Continued on next page

ACCESSIBLE PROTEIN

The average person is now consuming 43.1kg of meat per annum

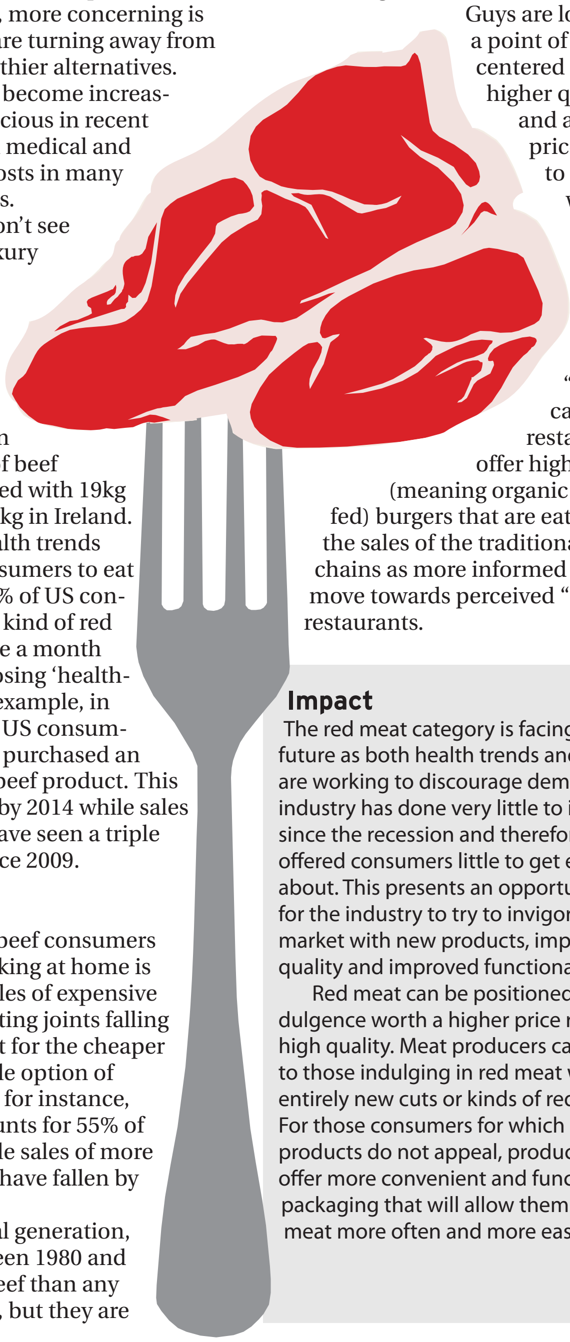
In the US, it is predicted that between 2013 and 2018, red meat sales will only grow by 3%, but when inflation is taken into account will actually decline by 8%. It has also been shown that nearly four in 10 red meat consumers are cutting back on beef and other red meat consumption.

Due to prolonged droughts in the US, the world's largest beef producer, has seen its cattle herd fall to the lowest in 63 years. This has resulted in the retail price of beef surging 30% in the past four years. But consumers appear to be adjusting to the higher prices, with almost half (44%) saying they expect to pay higher prices for beef while the wholesale beef demand index has only marginally dropped.

While price point compared to other meats is an issue, more concerning is that consumers are turning away from red meat for healthier alternatives. Consumers have become increasingly health conscious in recent years due to high medical and long-term care costs in many western countries.

American's don't see beef as such a luxury as the rest of the world, choosing beef more times in the week than any other protein source. The average American consumes 25kg of beef per year, compared with 19kg in Europe and 16kg in Ireland.

Even with health trends encouraging consumers to eat less red meat, 90% of US consumers eat some kind of red meat at least once a month but they are choosing 'healthier' options. For example, in 2007, just 20% of US consumers said they had purchased an organic/natural beef product. This has risen to 34% by 2014 while sales of organic beef have seen a triple digit increase since 2009.



Retail sales

Even the type of beef consumers purchase for cooking at home is changing with sales of expensive cuts such as roasting joints falling as consumers opt for the cheaper and more versatile option of mince. In the UK for instance, mince now accounts for 55% of all beef sales while sales of more expensive roasts have fallen by a quarter.

The millennial generation, those born between 1980 and 2000, eat more beef than any other generation, but they are consuming it in the form of burgers and mince, which is easier to prepare, cheaper and more versatile.

The rise of the gourmet burger

The average American eats outside the home two to three times per week and hence foodservice accounts for the largest slice of the US beef market (60%) with steak featuring less on the menu with the rise of the gourmet burger.

Americans fell in love with burgers when McDonald's opened its first restaurant in 1948. Traditional fast food outlets such as McDonald's and Burger King have been struggling recently as more consumers regard their menus as unhealthy, outdated and down-market. Upstart gourmet burger chains such as Smashburgers, Shake Shack and Five Guys are looking for a point of difference centered around higher quality beef and are charging prices similar to steaks for what is essentially only 4 ounces of mince. These "fast-casual" restaurants offer higher quality (meaning organic or grass-fed) burgers that are eating into the sales of the traditional fast food chains as more informed consumers move towards perceived "healthier" restaurants.

Impact

The red meat category is facing a bleak future as both health trends and price are working to discourage demand. The industry has done very little to innovate since the recession and therefore has offered consumers little to get excited about. This presents an opportunity for the industry to try to invigorate the market with new products, improved quality and improved functionality.

Red meat can be positioned as an indulgence worth a higher price reflecting high quality. Meat producers can appeal to those indulging in red meat with entirely new cuts or kinds of red meat. For those consumers for which premium products do not appeal, producers can offer more convenient and functional packaging that will allow them to use red meat more often and more easily.

ACCESSIBLE PROTEIN

THIRST QUENCHES FOR MILK

With shifts in lifestyles and habits of the modern consumer, the way we access dairy protein is changing

In many cultures of the world, especially the West, humans continue to consume milk beyond infancy. Initially, the ability to digest milk was limited to children, as adults did not produce lactase, an enzyme necessary for digesting the lactose in milk. Milk was therefore converted to curd, cheese and other products to reduce the levels of lactose.

But thanks to a chance mutation thousands of years ago, humans can now produce lactase in adulthood. This has allowed milk be used as a source of nutrition when other food sources failed.

Today, when we consume dairy, we think about drinking it, but shifts in lifestyles and habits of the modern consumer are changing the traditional ways we access dairy protein.

The demise of liquid milk

Milk consumption in Europe and North America is very high, typically more than 150kg per capita per year, with consumers preferring to "eat" their milk rather than drink it. By volume, liquid milk is the most consumed dairy product throughout the developed world but sales have been tumbling for years. Per-capita, US milk consumption, which peaked around World War II, has fallen almost 30% since 1975.

One of the largest causes for this decline is happening at the breakfast table. For generations, cereal has been the bedrock of the traditional breakfast. However, the popularity of breakfast cereals has been declining for more than a decade as on-the-go consumers now opt for healthy convenience products, such as granola bars, greek yoghurt and fruit, snacking at their desks or during their commute.

On top of this, the largest consumers of cereal have traditionally been children, but with the birth rate in the developed world in decline, this key demographic is shrinking rather than growing. To combat the decline, traditional dairy products are having to reinvent themselves as healthy, innovative and convenience products.

This is best seen with butter, where the per-capita demand is on the rise in the US, with production back to levels not seen since World War II. While the average American now consumes 2.5kg of butter per day, this is still only one-third of what people were eating in 1930.

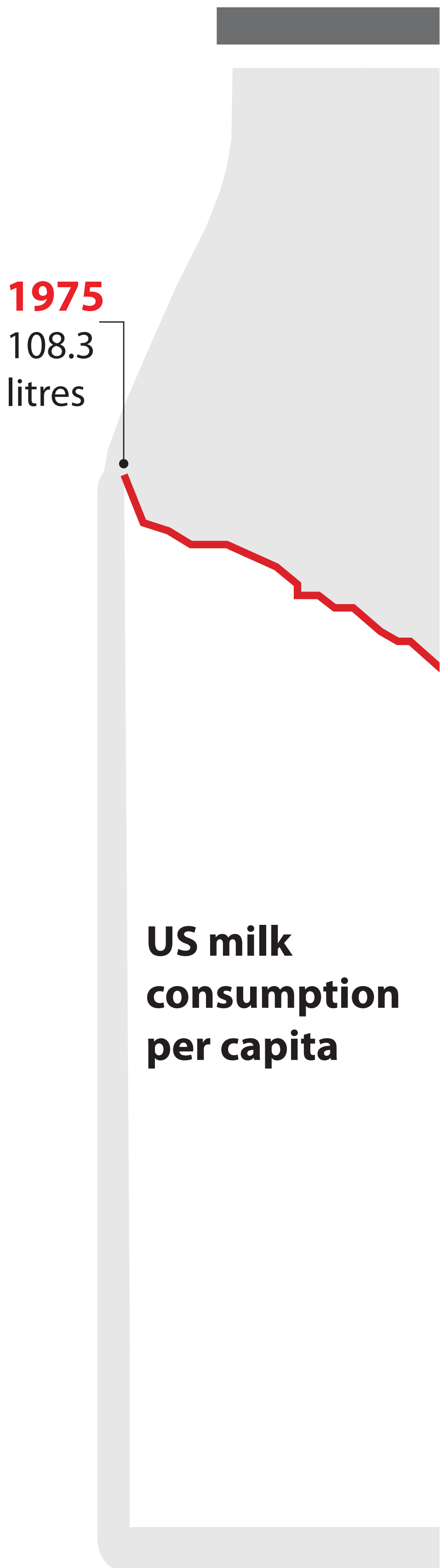
Eating more dairy

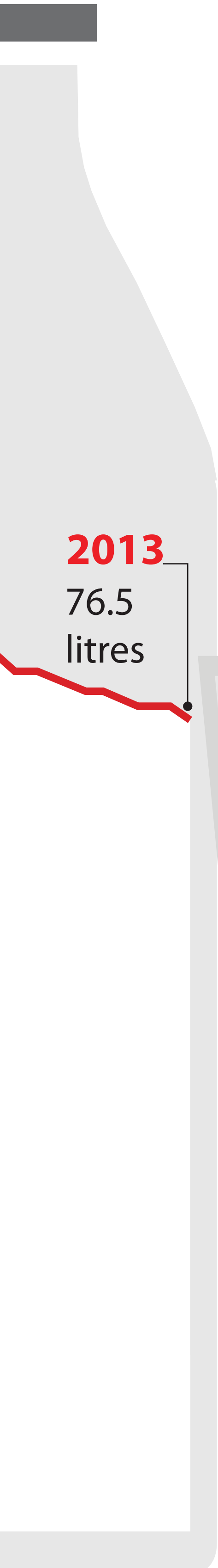
Similarly, in the 1970s, Americans consumed 193m kg of yoghurt; today, that has risen to 2bn kg. And they are eating more cheese. In the same period, cheese consumption has gone from just over 8.6kg per person per annum to nearly 16.3kg.

Cheese consumption in the developed world, particularly in the US, has soared thanks to fast food and casual dining restaurants, as well as being an ingredient in almost all convenience foods and prepared products. While the French produce more than 1,000 varieties of cheese, it is the Greeks who actually eat the most, consuming an average of 31kg per person annually.

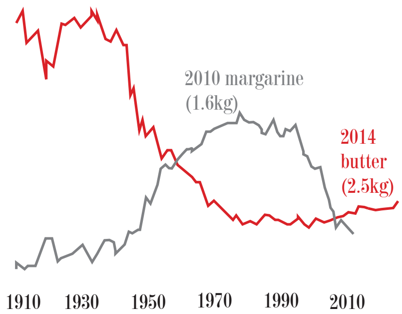
Thanks to its versatility and convenience, cheese can be used in almost any dish. Of all the cheese manufactured, almost half of it is used as an ingredient for further processing. The greatest driving force behind the increase in cheese consumption has undoubtedly been pizza.

Americans alone consume 100 acres of pizza every day, while 93% of Americans eat at least one pizza per month. In 2014, pizza sales in the US amounted to more than $38.5bn. Pizza-makers now use one-quarter of all the cheese manufactured in the US, at a cost of more than $4bn per annum.

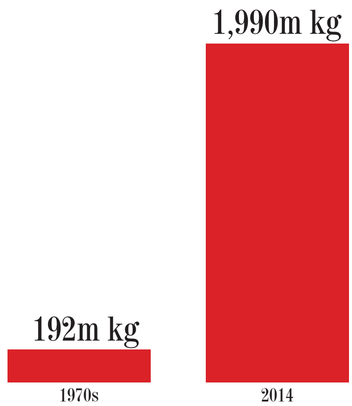




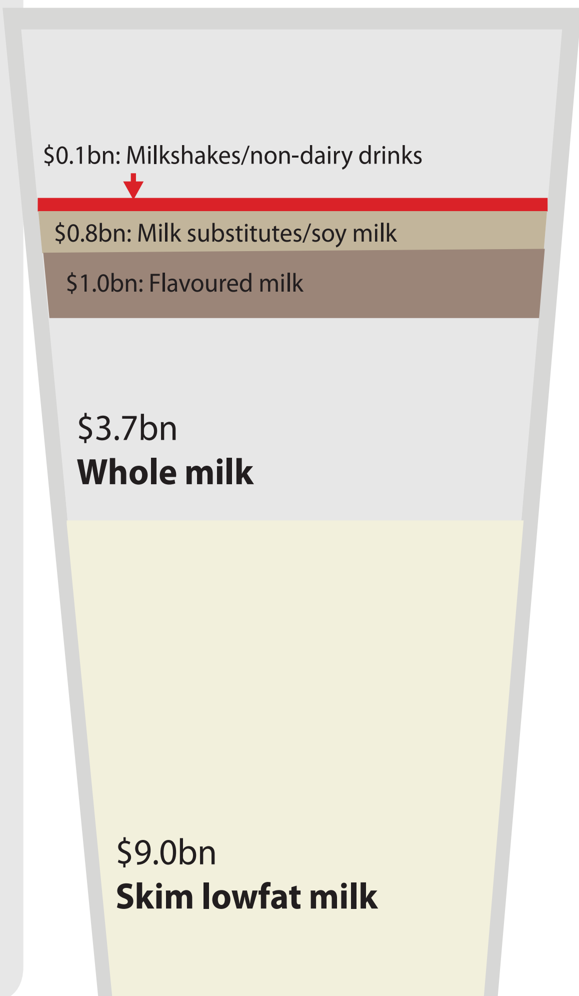
US PER CAPITA BUTTER CONSUMPTION



US YOGHURT CONSUMPTION



2012 sales



Impact

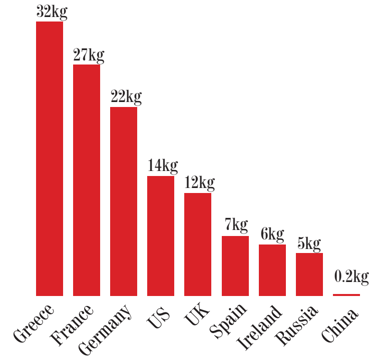
From the development of new innovative cheese ingredient formats to infant formula ingredients, the dairy category has adapted well to a changing consumer. Consumers are now consuming more dairy than ever. Irish dairy products can be positioned as a sustainable high-quality offering that achieves a premium in international markets. Dairy companies can appeal by introducing entirely new premium cheeses, butters and dairy beverages.

For those consumers in emerging countries, producers can offer more convenient and functional packaging that will allow them access dairy more often and more easily.

At home, the Irish dairy category is faced with an increasingly challenging operating environment. However, sales are still being driven forward by a demand for healthy products.

As consumers seek to reduce their spending on foods, dairy companies are seeing a growing threat from consumers swapping to own-brand variants of many dairy products, while discounter-brand dairy products are also a growing threat to the market.

CHEESE CONSUMPTION (kg/head/year)



Rise of dairy in the developing world

NIGERIA

There is much talk of an expanding middle class in Africa and how it accesses protein is much different to its western neighbours

There is much talk of an expanding middle class in Africa. But the bottom of the economic pyramid remains wide, with most Africans still living on less than $2 a day and spending the bulk of that on food and basic household items.

While individually insignificant, collectively these consumers also represent an attractive market. If you do not have a refrigerator, condensed milk is how you access milk in Nigeria.

If unopened, condensed milk, which is normally sold in a can, can be kept outside the fridge for a very long time but if the can is opened, it needs to be refridgerated. And because the can contains more milk than is needed for one cup of tea, it is expensive and can lead to waste.

Dairy powders

Enter the sachet which has exactly enough milk for one cup of tea. Hence, no waste and in a such low-income country, the sachet is easier to access. Fat-filled dairy powders are also a way Nigerians consume dairy.

The biggest challenge in recent years has been the increasing dairy commodity price.

When incomes are so low, it is difficult to pass on price increases. Price points stay the same at the lower end of the market so that, today, the sachet has less in it. A 10 Naira (4c) sachet will still cost 10 Naira even though the global market price for milk powder has increased. How the businesses manage to do this is by reducing the amount in it.

$2/day

With most Africans living on less than this amount, the milk sachet is how Nigerians consume their milk. It has no waste and is easy to access.

CHINA

China's urban population consumes 90% of all dairy products. Households purchase milk three days a week on average

12.8%

Annual dairy consumption in China has soared by this level since 2000.

In the developing world, the annual consumption of dairy products is very low because dairy has not been a traditional part of culture or eating habits. For example, urban per-capita dairy consumption in China now stands at 18kg/head, with rural consumers averaging 3kg to 5kg/head. And urban residents consume 90% of all dairy products.

If China's dairy consumption was to increase from the average 10kg/head to even Japanese levels of 60kg/hd, China would consume an extra 70m tonnes of dairy, dwarfing Ireland's total dairy production.

China is set to become the largest consumer market for dairy products in the world and, since 2000, consumption has soared by 12.8% annual growth rate. But this growth will be for a different range of dairy products to western consumer preferences.

The spectacular expansion of China's urban market for dairy products is driven by a combination of technology adoption, changes in retail supply chains, consumer trends, income growth and government policies. But possibly more important has been the arrival of the fridge, allowing expensive dairy products a longer shelf life.

The rapid development of supermarket chains in the 1990s and the advent of inter-regional shipments of dairy products have also helped. Moreover, the trend among Chinese supermarket chains toward centralised distribution and procurement allows dairy processors to have access to consumers throughout China.

Chinese households purchase milk three times per week, on average, buying four or five single-serving packages at a time. Other dairy products are purchased less frequently, averaging only one or two servings every two weeks. Milk powder is seen as an inferior product and is consumed more frequently by households living further from city centres. Chinese don't traditionally purchase cheese in the supermarket, but they are consuming it through cheeseburgers or pizzas demonstrating the influence of the growing presence of western-style food restaurants on Chinese consumption patterns. Ice-cream consumption is positively influenced by the household's proximity to a McDonald's restaurant (a proxy for the availability of western-style foods).

Busier lifestyle of modern consumer

The rise of convenience food is a direct result of our busier lifestyles, as consumers seek to spend less time preparing and cooking their meals

The British economist John Maynard Keynes once made the bold prediction that the three-hour work day would prevail for his grand-children's generation. But over 80 years after his speculation, people seem to be working harder than ever.

In the US, since 1970, the share of employed people regularly working more than 50 hours per week has increased. And it seems the higher people get paid, the harder they are working. Between 1979 and 2002, the frequency of long work hours increased by 14% among the top fifth of wage earners, but fell by 7% in the lowest fifth.

Technology has allowed people to leave the office, thanks to smartphones, email and wi-fi, and work from remote locations. This means the modern worker is never left off, even though they may spend less time at the office.

People now feel busier and this is giving rise to a convenience food trend. Consumers are spending less time planning and preparing meals and the concept of eating three meals a day is out-of-date.

Skipping core meals has become a characteristic of contemporary eating patterns, with breakfast the most commonly missed meal in our on-the-go society. Europeans on average miss 68.5 breakfasts per year, whereas Americans miss an average of 59.5. When it comes to lunch, Americans will miss this meal an average of 65.2 times per year compared with the European average of 19.5. This is likely due to the Europeans' stronger lunch culture.

Eating alone at non-fixed mealtimes is becoming more common. As a result, consumers are seeking food products more suitable to consume while commuting to and from work, while working at a desk, or while engaging in leisure activities, such as exercising at the gym.

Attitudes toward cooking have also changed. Cooking at home is seen as a chore, and meal preparation is considered very time-consuming.

The rise of convenience food

At one time, convenient meant quick-to-prepare, poor quality and even poorer taste. This began with the advent of cake mixes and TV dinners in the 1960s, and continued with microwaveable foods in the 1980s. Today's consumer wants additional attributes, such as healthy and ethical, and will pay a premium. The recession was good for convenience food products as people ate out less frequently, and they wanted a treat that was less pricey than going out. Convenience also means assistance. Products may not be fast, but may remove steps in the meal preparation process, making it easier for novice cooks or time-pressured parents to make healthy meals.

Partly prepared meals, or meal kits, may require additional ingredients and preparation to complete but are perceived as nutritious and healthier than take-away food options. 45% of European and North American consumers prepare such a meal between three and six times a week, while only 25% cook an evening meal from scratch five or more times a week, illustrating how today's consumer requires assistance in the kitchen.

Culinary skills are not being passed down from one generation to the next because young people are not involved in the cooking process from an early age and do not have the opportunity to learn through participation.

Because of the modern consumer's busy lifestyle, shopping habits have also changed. The big weekly shop is fast becoming a thing of the past with a greater desire from consumers to shop little and often, or top-up shop. Shoppers are now promiscuous and visit four different grocery stores a month on average, with almost half of them visiting two stores on the same trip.

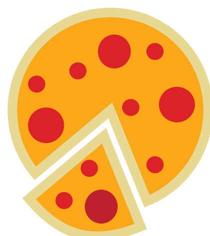
Given this trend towards top-up shopping, it is unlikely that internet grocery retailing will dominate in the future. While much has been made of the impact of online shopping, it still accounts for just 4% of total sales and is expected to reach 8% of all sales by 2019.

Impact

Brand loyalty has declined, allowing discounters such as Aldi and Lidl to build success from selling exclusively produced, own label/custom branded products. Many of these products are made by the same companies that make actual brands.

A strong brand is no longer enough to attract a premium. Yet branding has never been more important. The brand goes beyond the product – where the ingredients are sourced, how it is produced, the company values and ethics. To connect with consumers the brand values need to be stronger than ever.

Europeans, on average, miss 68.5 breakfasts per year, whereas Americans miss an average of 59.5.



Eating alone at non-fixed mealtimes is becoming more common, because of a change in eating habits and lifestyles.

25%

Of Europeans and North American consumers cook an evening meal from scratch five or more times a week.

The big weekly shop is fast becoming a thing of the past with a greater desire from consumers to shop little and often.

The rise of the foodie

Food has become the big discussion item, from baking to social media, and it seems we can't stop consuming it

As the wealth of a nation increases, the share of household budgets spent on food generally decreases. The average household in a developed country will typically spend around 10% of income on food. In Ireland, for instance, just 7.5% of the average household income is spent on food while in the UK and the US, an average of 8.9% and 6.8% of respective household expenditure goes towards food.

In contrast, people living in the developing world are forced to devote a far higher share of their income to buying food, more than 40% in countries such as Nigeria, Indonesia and Pakistan. In China, the average household will devote 34% of its income towards food, while in India the average is higher at 36%. Spending proportionally less of their income on food, consumers in the developed world then have more money for the more enjoyable things in life. On the back of this, a new artisan or speciality food trend has emerged over the last two decades where consumers are prepared to spend more money for locally produced, niche-food products.

The modern consumer is more informed and passionate about food as two-thirds of artisan food consumers watch cooking shows on a weekly basis, sometimes more than four hours per week. And when they are not cooking or watching their favourite online celebrity chef (the rise of the celebrity chef is another new trend), these consumers are online talking about and sharing pictures of food via social media, a recent phenomenon known as "food porn".

More affluent consumers view food as an "experience" rather than just a basic requirement. In particular, the millennial generation share their food experiences online, with the average millennial looking at images of food and drink at least six times per day on social media. In fact, more than one-third of millennials now think it more important to be knowledgeable about food than about fashion.

Food Heroes

The internet has helped foster an online community of foodies or food heroes, all sharing restaurant reviews, recipes and everyday food experiences. Some of the most clicked-on websites are food related, such as LovinDublin.com, a one-stop shop for details on Dublin's most popular restaurants (formal or fast-casual), with reviews, recipes and a detailed events guide of everything going on in the city from music and comedy to business or theatre.

Food blogs are also extremely popular and have helped facilitate the resurgence of traditional home cooking as well as building on the popularity of exotic cuisine with the modern well-travelled Irish consumer.

Visitors are coming to Ireland to experience our food culture, but equally many are coming here to learn how to cook. Ballymaloe cookery school is internationally renowned and the Allen family have pioneered the slow food movement in Ireland. Good Food Ireland pioneered the vision for food tourism in Ireland. Since its foundation, it has proven that by leveraging food in tourism it creates a greater commercial opportunity for agri-food companies.

Artisan food

Consumers are purchasing more speciality or artisan food than ever before. Coupled with this, consumers like the idea of promoting local businesses and producers. This has led to the revival of farmers markets in recent years.

Artisan food producers are typically small businesses, mostly owner-managed with a strong farming basis. The handmade or craft products these companies produce greatly appeal to the affluent, health-conscious consumer.

Currently, the Irish artisan food sector comprises 400 firms, employing more than 5,000 people with an output of €400m in 2015. Targets set out under the Food Harvest 2020 strategy aim to grow the sector here to 1,000 companies by 2020, with a potential output of €1.5bn and close in on countries such as New Zealand, where the number of speciality food producers is over 2,000.

Impact

In contrast to Ireland, Germany's economy is built around a large number of small to medium sized enterprises. While there are numerous start-up food businesses here, many of whom are extremely innovative, the challenge is to build scale in these businesses. The government needs to support SME growth. The knock-on effect of this benefits the wider economy, particularly in rural areas, creating jobs and growing exports.

The Irish artisan food sector comprises 400 firms, employing more than 5,000 people with an output of €400m.

€400m

Value of output from artisan food sector in Ireland.

The average millennial downloads images of food and drink at least six times a day on social media.

400

Firms in the Irish artisan food sector.

Consumers are regularly taking pictures of food and sharing them via social media, a recent phenomenon known as "food porn".

Discover dairy goodness
with the Kearney brothers
THE NATIONAL DAIRY COUNCIL
Find out more at
NDC.ie

The evolution of the Irish fridge

Since the 1950s, our diets have evolved thanks to a gradual rise in prosperity and the rollout of electricity around the country

Open an Irish fridge today and you might think you are in continental Europe. It would look completely different to one from 30 years ago. On the dairy shelf, there would be less milk, replaced with a sports beverage supplement, the strawberry yoghurt with Greek yoghurt, the block of cheddar with a pizza.

On the other shelves, the half-pound of sausages has had to move over to chorizo and Parma ham, while the humble potato has suffered because of couscous. On the vegetable shelf, the mashed carrots, turnips and parsnips have been relegated to the bottom shelf, with sun-dried tomatoes, mini peppers, chillies and avocados rising to the top tier.

Homemade bread, porridge and potatoes were the staple foods, making the typical Irish diet low in fat, low in protein and high in carbohydrates. With plenty of time, and a need for lower priced cuts of meat, homecooked meals such as bacon and cabbage and beef stew were the common dishes in Irish households, as well as a strong tradition to eat fish on a Friday.

But, from the 1950s onwards, our diets have changed thanks to a gradual rise in prosperity and the rollout of electricity around the country, allowing consumers to store more perishable goods in fridges for the first time. Dairy and meat consumption rose sharply, while potato and bread consumption fell.

On top of this, package holidays to European destinations such as Italy and Spain became popular, giving people a taste for Mediterranean cuisine. The biggest changes have been seen in the last 10 years, thanks to the Celtic Tiger, with Irish people travelling across the globe, becoming exposed to a range of international and exotic foods and bringing these experiences back with them. Couple that with a rise of immigrants from across Eastern Europe and further afield and what we now eat has changed.

Another driving force behind our changing eating habits has been the rise of the celebrity TV chef. From Delia Smith to Gordon Ramsey, television cooking personalities have brought new ideas for dishes, ingredients and cooking methods from all around the world to millions of viewers. In the future, will we see the Thai green curry become just as unremarkable a meal in many Irish homes as bacon and cabbage ever was?

The variety and selection of flavours and products from around the world is in evidence in Irish fridges today. Since the 1950s, our diets have changed thanks to a gradual rise in prosperity and the rollout of electricity around the country, allowing consumers to store more perishable goods in fridges for the first time.

Case studies
Companies key to bringing dairy to consumers

Company agenda

1. With milk consumption falling in Europe, emerging markets present the greatest opportunity. Consumers in these markets want different dairy products. This presents a challenge for businesses to develop innovative products to match this demand.

2. In the past year, we have seen international markets such as China and the US open up to Irish beef. Over the closed period, these markets have evolved. While steak will always be important, the growth in value is likely to revolve around premium manufacturing beef.

3. With the price point of beef much higher than other proteins, it must be seen as a luxury protein. Stronger marketing is needed to enhance the premiumisation of Irish beef.

Chobani ignites a Greek yoghurt craze

In the last decade, one of the fastest-growing categories within the dairy sector has been Greek yoghurt, as busy on-the-go consumers replace eating cereal for breakfast with more convenient products.

In the US, yoghurt consumption has rocketed from 425m pounds during the 1970s to 4.4bn pounds last year, generating sales of more than $7.3bn. The Greek yoghurt craze was ignited by upstart Chobani, a company less than eight years old with sales of $1.3bn in 2014 and a 20% market share.

Founded by Hamdi Ulakaya, a Turkish immigrant who moved to New York in the 1990s, Chobani has more than 2,000 employees and operates the two largest yoghurt factories in the world.

Changing trends give rise to Shake Shack

The rise in the popularity of the "fast-casual" restaurant has raised a serious challenge to traditional fast-food outlets and facilitated the phenomenal rise of companies such as Shake Shack, which sprouted from selling hamburgers from a hotdog cart outside Madison Square Garden in New York in 2000.

Today, the company operates 63 outlets, more than half of which are outside the US, with plans to grow to 450 locations. The average McDonald's customer spends around $5 a visit, while the average Shake Shack customer will spend more than twice that.

Offering consumers rich milkshakes, along with hormone- and antibiotic-free natural beef, the restaurant chain generated revenues of $118.5m last year, a 44% increase on the previous year. In February, the restaurant chain completed an IPO, which valued the company at $745m overnight. Today, the company is worth $1.6bn.

Starbucks – a coffee or a dairy company?

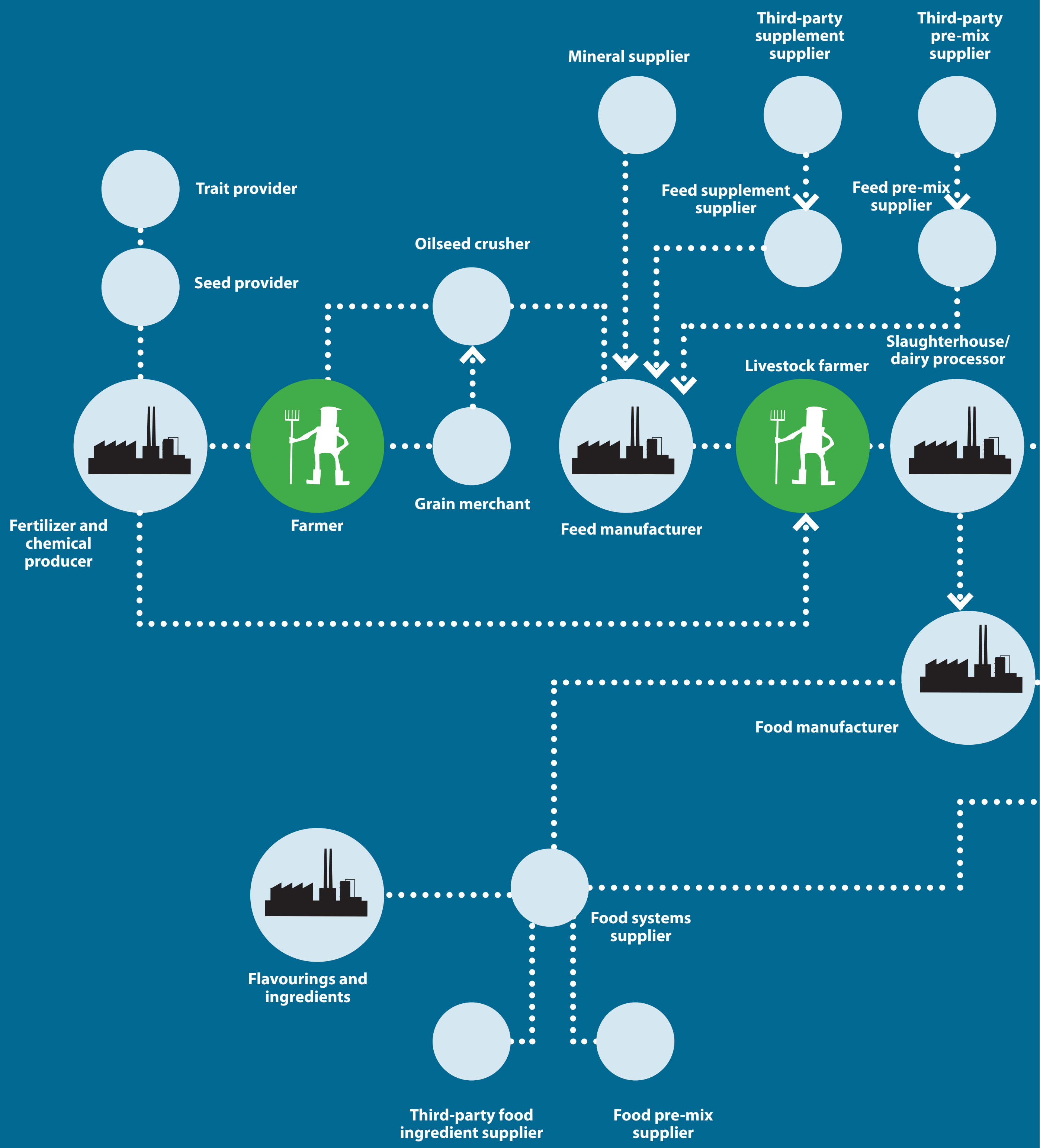
Starbucks serves 60 million people per week through 21,800 retail locations across 66 countries. People love the brand, with 4% of its customers accounting for 20% of its $13.3bn revenue. These customers are called "super regulars" by the company and visit 16 to 20 times per month.

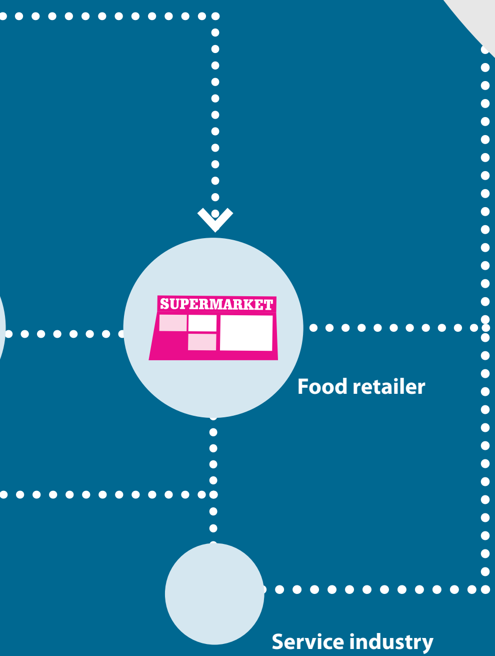
In 1990, the idea of spending $2 on a cup of coffee seemed absurd to most Americans. But Starbucks changed people's idea of what coffee tasted like and how much enjoyment could be got from it. It created the coffee experience where the average spend per store around the world is now almost $5.

Today, Starbucks is key to bringing dairy products to consumers. It uses 350m litres of milk per year, similar to the entire milk pool of Aurivo. The Chinese don't traditionally drink milk or consume dairy like we do, but with the growing popularity of Starbucks in China, they are inadvertently consuming greater amounts, almost unknown to themselves.

COMPLEX FOOD CHAIN

Words: Eoin Lowry and Lorcan Allen





QUESTIONING THE FOOD SUPPLY CHAIN

Consumers' worries about food safety are reinforced by scandals across the global food industry. More of them are asking where their food comes from, how it's produced and whether it is healthy. Food production in the industrialised world has undergone a massive transition over the last 50 years. For example, in 1954, one in three farms in Britain kept a few pigs and sold them locally. Today only one in every 150 farms keeps a lot of pigs and sells them all over the world. Suspicious consumers do not fully understand the structure of the food sector, they are sceptical of control systems, and they have a desire to know more about how their food is produced and where it comes from.

A series of meat scandals, including the use of meat that is well past its sell-by date in pre-prepared fast foods, the presence of dioxin in chicken feed and horsemeat marketed as beef don't help matters. While there is no excuse, such crimes come from increasing economic pressure as well as complex, globalised supply chains and are a consequence of lack of controls.

It is no wonder that demand for organic produce is rising, but such products are expensive compared with conventional food. In big cities in emerging economies, new retail chains and organic food sections in supermarkets are appearing. In India, a fivefold increase from $190m in 2012 to $1bn in 2015 is expected in organic product lines. Meanwhile, at home there is a growing trend towards local and provenance.

SUGAR THE BITTER TRUTH

More than 1.9 billion adults around the world are overweight, while over 600 million are considered obese, a figure that has doubled since 1980

While we tend to think of obesity as a problem of the developed world, it is simply not the case anymore, with 62% of these 1.9 billion overweight or obese people residing in low and middle-income countries.

The number of people around the world considered to be obese has more than doubled since 1980, while there are now over 42 million children under the age of five whoare also said to be either overweight or obese. The obesity problem is not only spreading but it is also concentrating in certain places. More than half of the world's obese population now live in just 10 countries – the US, Mexico, Brazil, Germany, Russia, Pakistan, China, India, Indonesia and Egypt. The US alone accounts for 13% of the obese population, while China and India account for a combined 15%.

The latest figures from the World Health Organisation (WHO) estimates that Ireland is on course to become the most obese country in Europe by 2030. Obesity in women is predicted to soar from 23% to 57% while the proportion of obese Irish men is expected to rise from 26% to 48%.

The escalating obesity levels around the world have mushroomed the prevalence of non-communicable diseases, such as cancer, heart disease, lung disease and diabetes, which now account for 63% of deaths worldwide.

As a result, health conscious consumers are paying closer attention to their diets than ever before. Traditional fast-food chains and soft drink companies, obvious targets for health conscious consumers, are being hit hard by this fundamental shift in consumer attitudes.

In an attempt to clean up their unhealthy images, fast food chains are reducing fat in their fries, offering fruit and salads with kids' meals and cutting portion sizes, while soft drink manufacturers are using natural sweeteners, such as stevia in place of sugar. For people in the US, sugary beverages are the single most important source of sugar, accounting for 10% of sugar in the diet. The average American consumes a massive 170 litres of soda every year, far more than the average in any other country.

Despite this, sales of soft drinks in the US have been declining for nine years as consumers look to cut more and more sugar from their diets. At one time, sales of sugary drinks accounted for 50% of the total beverage market in the US. Over the last decade, this share has fallen to 40% and is continuing to decline as consumers opt for juices, energy drinks and bottled water.

In an effort to stem the tide, beverage companies have tried everything, from Pepsico signing Beyoncé on a $50m endorsement deal to Coca Cola hiring fashion designer Marc Jacobs as its "creative director". But sales continue to fall.

The biggest problem for the likes of Pepsico and Coca Cola is that so much of their business is tied to the sale of sugary soft drinks. Even the sales of diet drinks with artificial sweeteners are falling as consumers react to concerns linking consumption of diet soft drinks to increased risk of cardiovascular diseases, particularly in older women.

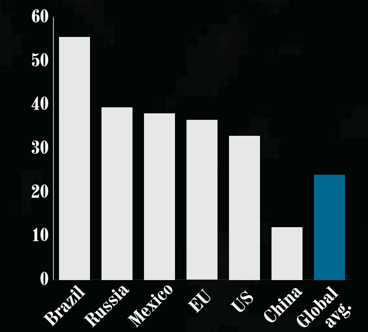
Both Pepsico and Coca Cola have made significant efforts in recent years to diversify their product portfolio away from just soft drinks. Last year, Coca Cola unveiled a premium milk drink called Fairlife, while also purchasing a 17% stake in Monster Energy at a cost of $2.15bn.

Coca Cola also took full control of the UK-based Innocent Drinks Company in 2013 in a bid to grow its share of the European smoothie and juice market. Despite this, Coca Cola still derives more than 75% of its revenue from soft drink sales. Rival company Pepsico appears to be in a much stronger position, earning less than half its profits from soft drink sales, thanks to its stable of crisp and snack brands.

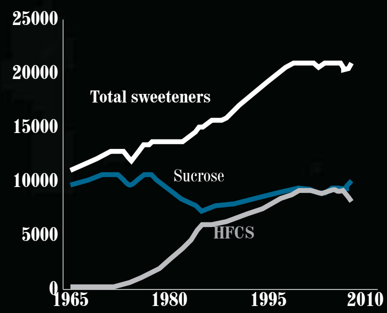
Invisible sugar

There is an increasing stockpile of evidence linking sugar overconsumption as a contributing factor to health problems, such as obesity, diabetes, heart disease and cancer. Unsurprisingly, sales of visible sugar products such as bags of actual sugar and fizzy drinks have been steadily in decline for the past number

GLOBAL SUGAR CONSUMPTION
(kg/capita/year)



US SWEETENER CONSUMPTION
(thousands of short tonnes)



of years. However, consumers are now becoming increasingly aware of ''invisible sugar'' – the added sugar found in almost all processed products and food. During the 1970s, the food industry cut fat out of products when dietary fats were linked to heart attacks. To make up for the loss of flavour, food companies added sugar in the form of high-fructose corn syrup (HFCS). From bread to meat to cheese and yoghurts, almost 80% of packaged food products contain fructose syrup. Even the tablet you take for a headache is probably sugar-coated.

In response to all the sugar in our diets, there is a growing clamour for governments to intervene and combat obesity directly through taxation on sugar. In 2013, Mexico introduced a one peso tax ($0.08) on every litre of sugary drinks sold to tackle the country's increasing problem with obesity. After the US, Mexico is the highest consumer of soft drinks per capita. Similarly, Norway has introduced an excise tax on refined sugar products while France, Finland and Hungary have introduced taxes on soft drinks and other high sugar foods, all in an effort to combat rising obesity levels.

The major players in the food industry have naturally baulked at the idea of a sugar tax instead insisting the industry can be self-regulating. However, the growing bad name for added sugar is not helping their cause, with many likening its toxicity and addictiveness to that of tobacco and alcohol.

Food is getting scarier

The economic crisis that has gripped Europe since 2008 has put financial pressure on households like never before. The sense of austerity that swept across Europe, as governments implemented tough fiscal policies and severe budget cuts, was compounded by high unemployment, wage stagnation, increasing taxes and a debt-laden middle class squeezed like never before.

Looking at their own household budgets, cash-strapped consumers began to make cuts and savings wherever they could and the weekly spend on food was a prime target for cutbacks. As a result, discount retailers such as Aldi and Lidl have gained unprecedented shares in European markets as consumers opt for cheaper alternatives.

The demand for cheaper food has led the food industry in Europe to seek cost savings. This led to the creation of sprawling integrated supply chains, enabling suppliers to source ingredients for processed foods from wherever was cheapest.

These complex supply chains criss-cross the continent via networks of traders, dealers and subcontractors, supplying alternating orders through a just-in-time operations management approach.

The complexity of modern food supply chains was clearly outlined when the horsemeat scandal unfolded across Europe. In one instance, horsemeat from a Romanian abattoir was sold to a French supplier by way of a Cypriot trader, and then passed on to a French food processing company before landing on British and French supermarket shelves.

Murky supply chains such as this were at the core of the horsemeat adulteration scandal as processors increasingly sourced cheap supplies in far-flung corners of Eastern Europe as filler for use in cheap frozen burgers.

The squeeze on prices came from large retailers and brands looking to drive down prices as consumers cut spending at a time when beef prices were at record highs and energy costs soared. With so many intermediaries in the supply chain, particularly in regions where the food trade may be in the hands of organised criminals, the capacity for adulteration was huge with the possibility of tracing the fraud very low.

The traceability and oversight controls of the supply chain were discovered to be ineffective.

Infant formula in China

In China, food safety is one of the greatest sources of public discontent after a number of food scares. Major scandals in the dairy sector in 2004 and 2008 damaged the trust in locally produced products.

In 2004, substandard milk led to deformities in children while the 2008 melamine scandal in particular was one of the worst food safety scandals in China's history.

An estimated 300,000 babies were infected by contaminated baby powder, resulting in six infant fatalities. Melamine was intentionally added to milk to artificially increase the protein count.

The incident dealt a devastating blow to China's indigenous dairy industry, which was thriving thanks to a surge in demand for baby formula from an expanding wealthy middle class. As a result, the demand for imported products has risen sharply, with more than half the Chinese baby formula market now dominated by foreign brands. In some cities the market share is as high as 80% and it attracts a significant premium.

Since the melamine scandal, the regulation environment in China is getting more stringent and complicated. There are now no fewer than 12 government regulation agencies involved in infant formula.

In August 2014, Chinese authorities issued a recall of potentially contaminated milk imported from New Zealand when Fonterra announced that harmful bacteria was identified in three batches of whey protein concentrate.

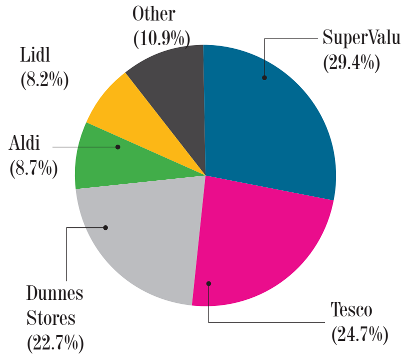
False alarm

While the scare proved to be a false alarm, the consequences for the New Zealand dairy industry could have been significant, with 90% of milk imports in China coming from Fonterra, equating to 10% of the group's NZ$22bn turnover.

Another food scandal that rocked China in the past year came when an undercover media report showed workers at a Shanghai Husi Food Co plant using out of date meat and doctoring the labelling displaying production dates.

Shanghai Husi Food Co is a subsidiary of the OSI Group, a US-based holding company of meat processors. In the fallout from the scandal, McDonald's and KFC dropped Shanghai Husi Food Co as a supplier for their operations in Asia, costing the OSI Group hundreds of millions in revenue and forcing it to lay off 340 staff.

IRISH SUPERMARKET SALES



Source: Kantar Worldpanel, 12 weeks to 29 March 2015

90%

Of milk imports in China come from Fonterra, equating to 10% of the group's NZ$22bn turnover.

Impact

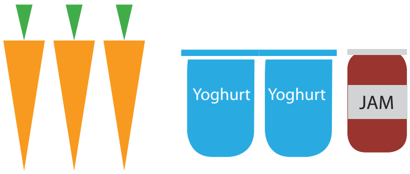
The recent prevalence of food scares, both global and local, has sharpened the public's focus on the food sector and some of the sprawling supply chains that have proven anything but traceable. People are right to be sceptical of where their food comes from and how safely it is produced, as food scandals have caused serious harm to consumers in some parts of the world.

Also, large multinational chains such as McDonald's want an image where they are close to the farmer and can offer consumers peace of mind that their products are fully traceable to local farms. As a result, these customers are putting greater pressure on producers and suppliers to improve their systems at risk of losing their business.

Local is the new global

€10m

Sales turnover of Irish food markets, of which there are 150. In 2006, there were less than 100 across the country.



As not every country has the climate to be self-sufficient, there will always be a need for the large food companies to make up the difference.

79%

Of Irish consumers believe that food produced locally is of higher quality.

Over the last decade, changing consumer habits and a growing distrust of big food has given rise to the local food and artisan food movements. Increasingly, consumers want fresh, healthy and ethically produced ingredients sourced from local farmers and suppliers. Local food has also benefited from an increased consumer demand for traceability. Local, by definition, already satisfies the need for country or region of origin labelling that is important to so many consumers.

In all, 79% of Irish consumers believe that food produced locally is of a higher quality, while 77% are more confident in the safety of food produced in their local area. At present, there are more than 300 artisan or speciality food producers in Ireland with an output close to €500m per annum.

On the back of the demand for locally produced food, country or farmers' markets have grown in popularity and enjoyed incredible success in recent years. In 2006, there were less than 100 food markets in Ireland but this has since grown to more than 150, turning over sales of approximately €10m per annum. These local markets can vary from farmers' or country markets to lunch-time or weekend city markets, but they generally share the common aim of allowing producers sell their (usually local) produce directly to consumers in a traditional market environment.

Provenance is another reason why local food markets have become so popular. Consumers want authentic food, but the feeling of supporting your own and helping the local economy and local jobs is a genuine purchase trigger.

Food markets appeal to health-conscious consumers who have a strong link in their mindset between market produce and a healthier lifestyle. Markets can allow for bartering or sellers may throw in extra produce, giving consumers the impression they are getting good value. Visitors to food markets also take great pleasure in the theatre of food, in particular watching it being prepared or cooked in front of them.

While the growth in popularity of the farmers' market has been extraordinary, there are challenges. Inclement weather, particularly with Ireland's temperate climate, is always an issue for outdoor markets. Equally, consumers continue to have an emphasis on price and many view farmers' markets as more expensive than supermarkets.

Impact

The growth in the popularity of the farmers' market has a twofold benefit for Irish food producers. Firstly, it allows them a route to market to customers who are actively seeking speciality food or local, fresh produce and often willing to pay a premium for it. Secondly, food markets play an important role as incubators for start-up food companies, allowing them to trial new products/ideas in a low-cost and a low-risk environment.

In response to the growing trend of local provenance, the large multinational food companies are having to rework, reshape and re-imagine themselves to meet this demand for local, organic and fresh food.

However, as not every country has the capability (soil and climate) to be self-sufficient and provide for itself, there will always be a need for the large food companies to make up the difference. Countries with the resources and capacity for food production like Ireland will always have a role to supply parts of the world with the food they cannot produce.

Red tractor

The UK's farm and quality food assurance scheme, Red Tractor, was established in 2000 and has been hugely successful in promoting provenance and British food to British consumers. Since its inception, more than 88,800 British farm enterprises have been recognised to Red Tractor standards. While this is great for British farmers, for the Irish farmer, the red tractor has effectively acted as a trade barrier for the export of live cattle from Ireland to the UK. Labelling laws that were brought in to promote free trade are now being used to promote individual member produce.

The rise of sports nutrition

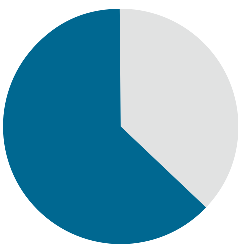
Increasing media coverage is drawing public attention to health issues facing society and increasing awareness of the risks associated with obesity and poor nutrition

The health and wellness trend has been growing steadily over the last decade. Increasing media coverage is drawing public attention to health issues facing society and increasing awareness of the risks associated with obesity and poor nutrition.

As a result, more and more people are taking their fitness and personal health more seriously and buying food and nutrition products that reflect this.

Previously, the primary consumers of sports nutrition products were professional elite athletes and bodybuilders. But now the market has widened as the casual or recreational customer such as the gym bunny, the goal-setter and the weekend warrior have started consuming these products. This has created an industry valued at more than $20bn, which is expected to grow to almost $38bn in value by 2020.

The value of the sports nutrition category has grown by 7% year-on-year in Ireland since 2012, and it is expected to continue to grow at the same rate over the next few years. This growth is primarily driven by recreational consumers motivated by feeling good and living a healthy lifestyle.



63%

US consumers account for this level of the global market

Consumer demand

As the customer base has widened, the industry has been forced to adapt to a wider array of consumer demands and concerns. For professional athletes, the greatest concern is product safety. These consumers want to be assured they are consuming a product that is natural, contains no banned substances and is approved for their sport.

Similarly, bodybuilders want the very best and most advanced products that have been proven to deliver the very best results. As the heaviest users of sports nutrition products, these consumers are more likely to buy in bulk.

Casual or recreational consumers with no ambitions to be a professional athlete are looking for a product that optimises their sporting experience in a healthy way. They desire products that are natural, safe and come with less technical, intimidating language that removes the bodybuilding stigma.

Another major obstacle for the industry is retaining these new customers. While elite athletes and bodybuilders are acclimatised to taking these products regularly, the casual customer has found that many products leave an unsavoury aftertaste. Improving taste is the greatest priority for improvement in nutrition products. Manufacturers have now started producing a wider range of flavoured options, particularly berried flavours that are mixed with water. The industry has also expanded the category by producing a broader range of products such as ready-to-go protein shakes, energy bars, protein gels and supplements.

Distribution has also had to widen into mainstream channels to reach the expanding customer base. At present, online accounts for the majority of sales at 35%, followed by nutrition stores and pharmacies, both channels accounting for 25% of sales.

The role of social media

Social media has certainly played an important role increasing the popularity of healthy living and regular exercise, with online fitness fanatics frequently posting updates on their fitness, latest exercise regime and new diet. As users browse through photos of their friends and colleagues online, image control has become increasingly prevalent.

Superfoods such as chia seeds, quinoa, kale and flaxseed have all moved from the niche market into the mainstream.

Playing on the health and wellness trend, technology companies have begun tailoring their latest products for the health-conscious buyer. At the touch of a button, users can download countless apps on health, fitness, nutrition, good food and exercise.

Apple has developed the Apple Watch, a device with a range of health-orientated capabilities including a built-in heart rate monitor, while Google has launched its own health-tracking platform called Google Fit.

The mobile health application market is estimated to be worth $6.4bn in 2015, and more than double that in 2016 when it is forecast to reach a value of $13.5bn.

The rise of the gym

Despite ever-increasing obesity levels, the number of people exercising, attending fitness centres and gyms has never been higher. Gyms as we know them didn't exist until the 1970s and 1980s, when exercise became popular, although membership rates were initially very low. However, gym membership exploded from 2000 onwards. Regularly attending a gym used to be highly concentrated on the 18-34 age group, but the popularity has now spread out over all age groups, particularly with those over 50.

$20m

Value of sports nutrition industry. It is expected to grow to $38bn by 2020

Impact

Health and wellness has never been so important. The dairy industry has transformed itself to meet this trend by developing ingredients and products from what was essentially a waste (whey) and turning it into an added-value product. While the market is growing at huge rate, the risk for businesses is that an external food or health scare could undermine an individual company's growth. It is a relatively new category and brand loyalty is weak. The challenge will be to differentiate products in the noisy marketplace, while ensuring that correct labelling and independent science-based research are ongoing. The category will continue to become mainstream, which will affect margins as products move through the life cycle.

AGRI BUSINESS

Case studies
How companies are affected by the big picture

Coca-Cola enters the milk market

Earlier this year, Coca-Cola launched a premium milk product called Fairlife in a bid to diversify its product portfolio and reduce its dependence on its core brands, which are seeing falling sales. The product is aimed at the health-conscious consumer, who is not buying Coke or Diet Coke anymore.

Fairlife is a lactose-free product containing 50% more protein, 30% more calcium and 50% less sugar than regular milk. Retailing at $4.59, twice the price of regular milk, Fairlife can be purchased as whole milk, reduced fat, fat-free or chocolate flavoured. It is produced by Fair Oaks Farms – a joint venture established by Coca-Cola and Select Milk Producers, a group of dairy farms based in Texas, New Mexico and the Midwest.

Ethical consumers opt for ethical Chipotle

Chipotle has grown into a $22bn empire with almost 1,800 restaurants, serving 750,000 customers a day.

Last year, Chipotle's operating profit grew by 33% to $711m on the back of a 28% rise in revenues to €4.1bn. The fast-casual restaurant espouses the mantra "food with integrity", serving grass-fed beef, pork from antibiotic-free pigs raised outdoors, ingredients sourced fresh from local suppliers, and sour cream and cheese made from milk that comes from cows that are not given hormones.

New Sprouts in US retail market

Sprouts Farmers Market is reinventing the supermarket in the US. The specialty retailer is shaking up the fresh and organic market.

While Whole Foods is upscale organic, Sprouts is more mundane. It so far has 200 stores. Sprouts held an initial public offering in 2013 and today has a market capitalisation of $4.9bn. Its shares sell on 46 times earnings.

Incredibly, Sprouts was founded just 12 years ago. Last year sales grew 22% to $2.97bn, while comparable store sales grew 10% as shoppers spent increasing amounts on healthy food. Organic foods have become more of a catch-all term with people buying it simply because they think it's healthier than regular produce.

1. **Company agenda**
   As supply chains have become longer and more complex, businesses need to move beyond sourcing raw materials based on price. Better ingredients move the argument beyond price and allow companies to build a brand.

2. With the modern consumer so removed from primary production, the industry needs to encourage transparency and businesses must build traceability around their products.

3. As the obesity problem intensifies, it will increasingly become the responsibility of food companies to produce healthy authentic food that goes beyond the clever marketing and packaging.

OPPORTUNITIES IN A CHANGING ENVIRONMENT

Power and influence
As economies try to move beyond the global financial crisis, different mechanisms are being used to ignite growth, which is affecting global trade. The pendulum of power is swinging back east and creating a shift in global trade dynamics. In a flatter world, the global institutions that we have become accustomed to are facing competition from newer groups, with the interests of the developing world at heart.

Future world citizens
The global population is expected to grow to nine billion people over the next 35 years, while at the same time people are more affluent, more educated and more aspirational than ever. Meanwhile, the world is getting older and will demand different types of nutritional solutions in the future.

Accessible protein
In the future, the world will access protein differently. In the Western world, we will continue to eat more dairy, and less beef, favouring cheaper protein sources. In the developing world, consumers are developing an increasing appetite for protein thanks to Western companies introducing them to new categories.

Complex food chain
Due to continuous pressure on margins, the industry has been driven to reduce cost. This has developed into supply chains that have become long, fragmented and extremely complex. Because of this, consumers do not understand primary production and have become disconnected from the food they eat.

The global population is expected to grow to nine billion people over the next 35 years, while at the same time people are more affluent, more educated and more aspirational than ever.