Europe can win despite age trends

Ageing populations will change demand patterns in all regions. For Europe, the challenge is to adapt business models to this New Normal. Lower feedstock costs will add support

PAUL HODGES INTERNATIONAL ECHEM

Major change is under way in petrochemicals and plastics. For the first time in decades, the industry is starting to be driven by demand issues, rather than by supply. The reason is that we can no longer reliably forecast future product demand by simply using a multiple of IMF growth forecasts for GDP. In turn, this means business models have to evolve. We need to become more service-based in our approach, and take advantage of the vast pool of expertise in the industry.

China's adoption of its 'New Normal' economic policy has been the catalyst for this dramatic change:

- On the supply side, it has abandoned the "growth at any cost" model that had allowed pollution and corruption to flourish
- On the demand side, it is deflating the lending bubble that had artificially boosted demand by creating property wealth effects

Business models based on exports to China are backfiring badly as a result. Mining and luxury goods manufacturers are first in the firing line, as are countries that had taken soft options for growth by exporting commodities to China. Related industries such as shipping are also facing hard times, as are the global real estate markets used for laundering illegally gained wealth in China.

In Europe the aging population is driving changes in demand for chemicals

Oil markets highlight the depth of the change under way. Now the myth of $100/bbl oil forever has been punctured, it is clear that overinvestment has taken place on a massive level in recent years – leaving behind a supply glut in all types of energy – oil, natural gas, coal and renewables. Similarly, the myth of high operating costs has been exposed by the IMF, which has highlighted how only Brazil and the UK need prices above $30/bbl.

This is good news, of course, as low energy costs will help us to respond successfully to the shift in demand patterns being created by today's ageing of the global population:

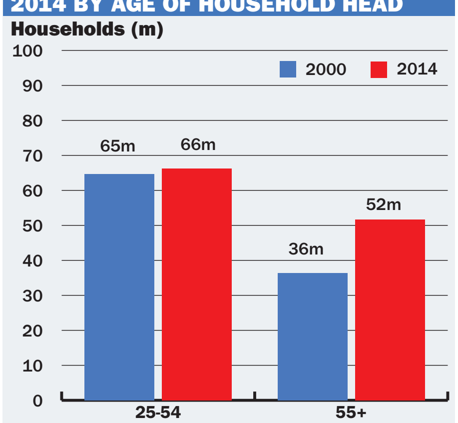
- Fertility rates have been below replacement level (2.1 babies per woman) for 40 years in most developed countries, and for 25 years in China
- This means we face a growing shortage of young people in the 25-54 age range, whose spending would have normally driven economic growth
- At the same time, people are living much longer; someone aged 65 in the West can now expect to live for another 20 years, and for 15 years if they live in China
- This is bad news for traditional models of forecasting demand, as older people already own most of what they need, and their incomes decline as they enter retirement.

It is also bad news for future economic growth, as consumer spending is around two-thirds of GDP in most Western countries. Chart 1, showing trends in US household spending, thus confirms the headwinds created by these unprecedented demographic changes:

- The number of Americans in the wealth creator 25-54 age range has plateaued since 2000 at around 65m. Over the same period, the lower-spending over-55 generation has grown by more than a third to 52m, driven by the ageing of the vast "baby boom" generation.
- Demand patterns are thus changing rapidly, as the over-55s spend around 15% less than the wealth creators – an average of $48,000 per household, versus $57,000 for the younger generation. Even worse is that wealth creator spending has fallen 5%, when adjusted for inflation, from $60,000 to $57,000.

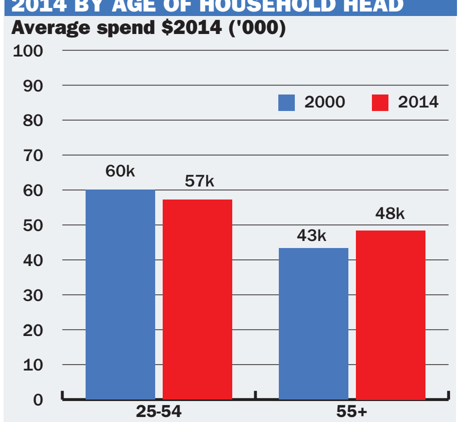
These trends represent a complete paradigm shift from the business models that have proved so successful in the past. The example of the retail industry, now being turned up-

NUMBER OF US HOUSEHOLDS 2000 VS 2014 BY AGE OF HOUSEHOLD HEAD



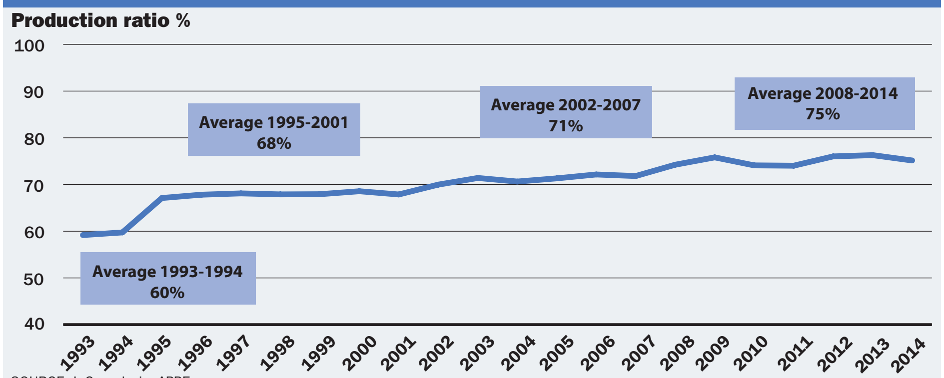
SOURCE: IeC analysis, US Consumer Expenditure Survey, Bureau of Labor Statistics

US HOUSEHOLD SPENDING 2000 VS 2014 BY AGE OF HOUSEHOLD HEAD



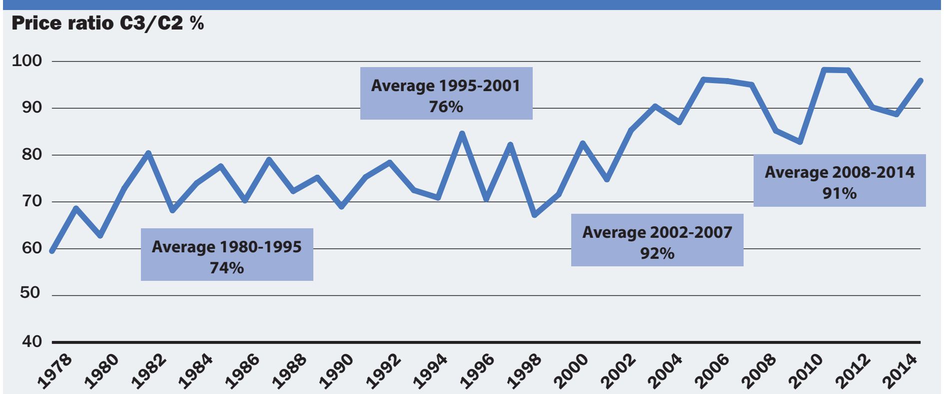
SOURCE: IeC analysis, US Consumer Expenditure Survey, Bureau of Labor Statistics

WEST EUROPE PROPYLENE/ETHYLENE PRODUCTION RATIO (% 1993-2014)



SOURCE: IeC analysis, APPE

EUROPEAN CONTRACT PROPYLENE/ETHYLENE PRICE (% 1978-2014)



side down by the rise of the discounters and the internet, highlights the fact that time is not on our side. Adapt or die must be our motto.

FUTURE TRENDS IN EUROPE

Each region will, of course, face different challenges. So let us start by looking at the European industry. This is already further down the track in feeling the impact of these changing supply and demand patterns. I will look separately at the outlook for Asia and North America in future articles.

Europe has been hard-pressed in recent years by the artificially high price of oil, which remains its principal feedstock. But it has proved resilient under the challenge, as charts 2 and 3 show of propylene price ratios to ethylene, and the propylene-to-ethylene production ratio. They help to explain how, contrary to many people's expectations, producers have remained profitable despite their feedstock cost disadvantage versus US shale gas-based olefin production.

Every cloud has a silver lining, as the proverb says. Ironically, the increasing use of ethane in the US, due to the arrival of shale gas, has supported European profitability by reducing the supply of co-products such as propylene, butadiene (BD) and benzene. As a result, as Chart 2 highlights, propylene prices have moved to near-parity with ethylene, from just 60% in 1978. In turn, as Chart 3 shows, producers have been able to increase propylene production to average 75% of ethylene volume.

In addition, of course, Europe's refinery-based production has provided further powerful support. Weak gasoline demand means Europe's refineries would struggle to find alternative outlets for their naphtha if crackers were to close. And European governments do not want refineries to close, for obvious reasons of energy security.

European producers have also pursued the self-help option. As often before in times of economic challenge, they have been inventive in their response to adversity. Companies have invested to reduce their break-even operating rates, enabling them to remain profitable at capacity utilisation rates below 85%. They have also further expanded their feedstock flexibility, not only with regard to use of lower-cost liquefied petroleum gas (LPG), but also via the opportunity for US ethane imports.

FOUR KEY CHANGES FOR BUSINESS MODELS

Successful companies of the future will focus on:

- Being service-driven, as well as product focused
- Understanding demand patterns, as well as supply issues
- Producing affordable products, relevant for ageing populations
- Maintaining a flexible culture, avoiding centralised bureaucracy

ADAPT TO DEMAND TRENDS

Lower oil prices will, of course, provide powerful support for European producers in the future, as these gradually return to historical levels below $30/bbl. But this is only one half of the challenge. Now companies need to apply the same degree of invention and flexibility to the demand side of the equation:

- Key markets such as autos have seen sales drop back to levels of 20 years ago, despite government support and major price discounting
- This is set to continue: Germans aged 70, for example, drive only half as much as when they were in their 30s (see ICIS Chemical Business, 5-11 January 2015)
- Today's demographic trends mean there are already many more older Germans, and not so many younger ones
- Younger people are also much less interested in owning cars, and often prefer public transport for environmental reasons

Luckily, other industries such as aerospace and retail are also facing the same issues, and can point us in the right direction. Additive manufacturing (or 3D printing as it is often called), for example, is already revolutionising manufacturing and supply chain models. It is expected to be a $6bn market by 2017, with aerospace companies already using the technology to make 20,000 spare parts.

EUROPE'S BEST DAYS AHEAD

Has your company already begun to plan for success in this New Normal world? Time, unfortunately is not on the side of those who plan to keep their heads firmly stuck in the sand. Just as the smartphone and tablet are challenging traditional computing models, so we also need to become more application-driven and less product-focused.

Luckily, of course, today's ageing workforce makes this is an opportunity as well as a threat. It means companies can develop the necessary business models, utilising this vast pool of expertise to gain sustainable competitive advantage. As a result, the best years of the European industry probably still lie ahead. ■

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