White Paper

SIEMENS

Frozen Capital in Industry

A Research Report from Siemens Financial Services April 2010

Contents

Figures

Management Briefing

- Frozen capital is defined as inefficiently deployed capital or untapped liquidity potential that could be freed up in industry across the globe

- This report focuses mainly on the manufacturing industry, which is a key wealth producing sector of economies. Many countries around the globe depend significantly on the manufacturing industry

- In the six countries studied (Germany, France, UK, Poland, Turkey and China) over €110bn of capital was frozen in manufacturing industry in 2009

- Any limitation on the ability to invest in the latest technology and equipment has a disproportionately large influence over the ability of industry to compete on increasingly globalised markets, whether achieving additional efficiencies or funding new product development

- Asset finance is also playing an increasingly important role in enabling conversion to more energy-efficient industrial equipment, since it helps align regular, affordable monthly payments with the incremental savings gained from lower energy consumption

- In economies where manufacturing industry is experiencing over-capacity, leasing is also helping to finance under-utilised assets such as stocks of spare parts

- For mature Western economies that have been affected by recent recession, tapping into liquidity currently tied up in outright equipment purchases provides vital working capital

- In Europe, frozen capital is highest in Germany at €10.2bn followed by France at €5.8bn. The UK has a much lower volume of frozen capital (€2.7bn) largely because of the smaller size of its manufacturing sector

- In Turkey, capital investment has continued to decline, despite a recent upturn in the manufacturing sector, resulting in a frozen capital volume of €1.4bn

- As an example of Eastern Europe's growth economies, the level of industrial frozen capital in Poland is now higher than that in the UK, demonstrating the proportionately much higher importance of manufacturing industry to the Polish economy, as well as the burgeoning level of investment in Poland's manufacturing infrastructure

- In rapidly growing economies, such as Poland, methods of freeing up frozen capital – such as asset finance and leasing – provide much needed liquidity in a time when credit remains tight globally

- Active industrial infrastructure investment is also the hallmark of China's economy. The sheer size of the Chinese industrial sector means that it weighs in with €87.3bn in frozen capital. This represents some 2% of GDP, although as output continues to grow at a predicted 9% in 2009, this proportion will diminish over time

Manufacturing as a % of GDP and a % of Labour Force		
Country	**% GDP**	**% Labour Force**
China	48.6%	25.0%
Germany	30.1%	29.7%
France	20.4%	24.3%
UK	24.2%	18.2%
Poland	31.2%	29.2%
Turkey	27.5%	24.7%

Sources:

World Bank (for 2000 and 2005), click here

CIA World Fact Book (for most recent figures), click here

Frozen Capital – Introduction and Definition

Critical to the provision of industrial technology and equipment is better access to flexible capital. However, a proportion of capital is currently "frozen" in industry across the globe, and is either not efficiently deployed or is failing to realize its optimal liquidity potential. Releasing liquidity is important both for economies seeking to finance industrial growth momentum, and for those looking to regenerate industrial health in markets that have seen gradual historical decline.

Manufacturing as a % of GDP			
Country	**2000**	**2005**	**Today**
China	46%	48%	48.6%
Germany	30%	29%	30.1%
France	23%	21%	20.4%
UK	28%	24%	24.2%
Poland	32%	31%	31.2%
Turkey	31%	29%	27.5%

Frozen capital is defined as capital funding which is not appropriate for the purposes to which it is being applied, and is therefore not delivering adequate return on investment. In short, the notion of frozen capital in the industrial sector identifies the amount of money that could be freed up and more effectively applied to capital asset acquisition, if asset-financing techniques such as leasing and rental were more widely employed.

In the industrial sector, the range of equipment that can be acquired through asset-finance techniques is wide. Examples include the full gamut of machine tools used in fabrication sectors – both heavy and light. Many industries use a variety of 'pick and place' technologies, particularly hi-tech manufacturing sectors such as the mobile phone industry. Then there are various other asset types, spanning various forms of vehicle and movable plant, IT and control systems, security systems, printing equipment, and various other categories.

Research has shown that organisations' policies on technology replacement periods appear not to have lengthened during the recent economic downturn[1] and industrial organisations are less and less able to have a significant proportion of their annual capital budgets tied up in plant and equipment. Indeed, lack of appropriate technology may directly impact on process efficiency and competitive position.

Within business environments, economists have for many years advocated ownership of appreciating assets (property being the classic example) and the 'rental' or leasing of depreciating ones (vehicles and technology). Technology tends to advance in sudden leaps. Industrial organisations that find themselves owning previous generation equipment (which they have decided to write down over, say, ten years) will find it difficult to attract customers in increasingly globalised markets. Financing techniques that enable manufacturing industry to upgrade to a superior technology at certain points are therefore gaining in popularity. In manufacturing, such technology can introduce levels of automation that are essential to modern organisations. For these techniques to be effective, and to offer good value, financiers need to understand technology development paths, and also – for standardized pieces of equipment – have the channels through which to remarket the older equipment if it has a residual value.

[1] Siemens Financial Services, *Maintaining Momentum*, July 2009

Another major trend in the industrial sector is the quest for energy-efficiency. The introduction of initiatives such as carbon credits are putting pressure on manufacturing industry to reduce carbon footprint, while some governments are also offering various form of incentive for investment in 'green' technology and equipment. However, converting to more energy-efficient equipment is highly capital-intensive if executed through outright purchase and traditional borrowing. Asset finance plans, on the other hand, are better aligned to the incremental cost savings gained from lower energy consumption. Increasingly, such plans are being overtly marketed as 'spend to save' arrangements.

In mature economies, which are experiencing industrial over-capacity and tightened liquidity, the issue of under-utilised assets is also an area where asset finance and leasing is easing the pressure. One particular example is that of industrial equipment spare parts. Spare part stocks are strategically important investments – with an absolute necessity to have them immediately available in case of equipment failure – yet spend most of the time unused. Both the spares and the cost of buying them can be regarded as 'frozen'. Financing through an asset finance plan allows the cost of having spares available to be regarded more like a monthly insurance policy

Calculating Frozen Capital

Calculating Frozen Capital

The formula for calculating 'frozen capital' is:

- Annual spending by manufacturing industry on equipment is reduced to the proportion deemed 'leasable' (conservatively, in the region of 20-30%)
- This remaining sum is then reduced by the leasing penetration rate for the country in question

The remaining sum is regarded as largely 'frozen', in that it has been locked-in to outright purchases where payments could have been spread – as monthly payments – across the lifetime of the asset, in order to release much needed working capital

In order to illustrate the level of capital "frozen" in this way, the authors of this paper constructed a simple model. Annual equipment spending by manufacturing industry was combined with a conservative calculation of the equipment broadly considered leaseable or rentable, and then pro-rated for the leasing penetration for each country.

This frozen capital can be replaced with an asset-financing plan that:

(a) simply charges a fixed equipment lease/rental and maintenance cost against revenue budgets,

(b) introduces the possibility of the manufacturing organisation being able to upgrade its technology in broad line with technology developments.

Aside from the financial issues of capital deployment efficiency and freeing additional liquidity, there is also the point that greater use of asset finance enables investment in equipment that would previously have been considered unaffordable. Without appropriate equipment, industrial productivity hits a ceiling, and so asset finance can often be an critical means to grasp production gains which are essential to global competitiveness.

The result is a much more transparent and accurate visibility for managers of the true cost of the asset over time. By correlating the asset finance costs with product throughput volumes, a cost-per-use can be calculated, all of which more closely reflects the trend away from global financial management structures, and towards fully attributable cost per product calculations.

Pricing and Availability of Asset Finance

Business credit, in the form of asset finance, should play a role in every finance director's thinking, especially because the credit assessment criteria exercised are rather dissimilar to those employed for straightforward relationship lending by banks.

At its most basic level, asset finance decisions are secured both on the lessee's credit status and the asset (equipment), which remains the property of the lessor throughout the life of the agreement.

Financiers, especially those who have originated in a manufacturing or technology company, use a longer term view to assess lessee credit risk, reflecting relatively long typical asset finance periods of 3-7 years. This contrasts with shorter-term relationship lending with its reliance on third party credit ratings and lending caveats and collateralisations.

An asset finance agreement is usually a fixed-term, fixed-price agreement. Therefore, the lessee can budget for a dependable fixed monthly payment throughout the life of the agreement. For financial directors, this reliability is extremely useful for medium- and long-term financial planning. Any 'cost of credit' planning will need to utilise a well-judged combination of fixed and floating rate credit sources – and leasing provides an important buffer to hedge against floating finance.

A further key point about asset finance, especially when it comes from a specialist financier, is that credit decisions are usually based on a deep understanding of the lessee's industry. This allows the financier to make an expert assessment of:

- The appropriateness of the financed equipment to the lessee's size, specialisms, track record and market potential
- How the lessee is likely to leverage the equipment to achieve its business goals
- Market trends in the products which the equipment is designed to produce

In simple terms, the different approach to credit risk assessment taken by asset financiers frequently means that asset finance is granted to companies where a short-term credit assessment would not give a positive decision, especially in slower economic periods. While this does not mean poorly performing companies will be able to obtain asset finance, the longer-term approach inherent in asset finance decisions will often make this form of finance available to companies going through temporary challenges. Moreover, so long as lease payments are maintained, there can be no threat of foreclosure by the lessor, in contrast with relationship credit arrangements where there is much more freedom for the financier to decide to foreclose. As such, it remains a powerful, and dependable, tool at the financial director's disposal.

The Research – Summary Findings

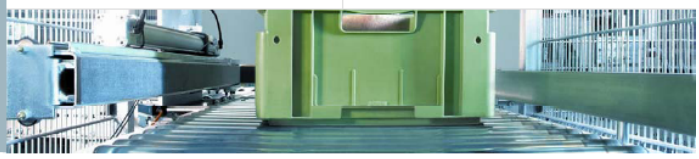
For the last three years, Siemens Financial Services has been studying financing techniques in a number of different private and public sectors, particularly industry and healthcare. One of the most compelling findings of these studies has been that manufacturing industry across the six key countries studied - Germany, France, UK, Poland, Turkey, China - are not making the most efficient use of available financing tools. In 2009 an estimated €110+ billion of capital equipment spending annually was being tied up in outright purchasing, with the result that the majority of this figure was 'frozen', unable to be used for other purposes. This was seen as a critical area of inefficiency in the industrial sector. In the West, manufacturing industry is under massive pressure to become more efficient. In rapidly growing economies such as China, the need for financing methods to fund continued rapid infrastructure growth requires a variety of funding sources over and above traditional bank lending.

Frozen Capital - Industry Manufacturing: Millions of Euro	2006	2007	2008	2009
China	70,891	76,918	85,425	87,270
Germany	11,574	12,442	12,744	10,184
France	6,432	6,902	6,942	5,824
United Kingdom	3,645	3,726	3,173	2,724
Turkey	2,043	1,906	1,712	1,376
Poland	2,404	2,817	3,123	2,905

It is the contention of this paper that asset financing tools – particularly leasing – are likely to continue growing rapidly in China. High industrial infrastructure growth in developing economies may well also be accompanied by an increasingly broad-spread use of asset finance and leasing, helping to keep a cap on the increase of frozen capital in the sector. Rapid growth economies have the opportunity to observe the historical experience of the West, and use that observation to avoid the frozen capital trap through the use of smarter financing techniques which align investment with output. It is noticeable that Purchasing Managers Indices (PMIs) in all the countries studies have moved to the positive in recent months (see pages 11-16 below) and it is critical to government and business leaders to maintain this upward momentum into full global economic recovery. Asset finance has a key role to play in keeping organizations lean and fit, and able to take full advantage of the economic recovery by having optimal working capital at their disposal.

Spanning the West and the Middle East, Turkey has seen an upturn in its manufacturing industry confidence and growth after a sustained period of pessimism in 2008-2009[2]. However, this upturn in sales and revenues has not been accompanied by a parallel upsurge in capital equipment investment. Any suppression of capital equipment investment will undoubtedly become a problem for the Turkish manufacturing sector in the medium to longer term. Without access to up-to-date technology, competing in increasingly globalised markets is difficult.

Frozen Capital - Industry	
Manufacturing: Per Capita	**Per Capita 2009**
Germany	€ 159
France	€ 71
China	€ 65
United Kingdom	€ 45
Poland	€ 38
Turkey	€ 36

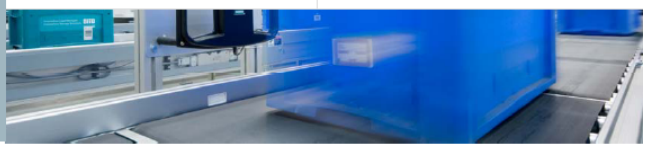


Asset finance is a key tool, not only for making capital investments more affordable by spreading the cost across regular monthly payments, and not simply for providing finance secured on the asset which might not be available through standard loans, but also often offering built-in affordable upgrade options across the life of the agreement.

Whilst the sheer volume of frozen capital in industry tends to broadly mirror short-term trends in capital investment, it is more revealing to also examine the issue from two further perspectives. First, calculating frozen capital as a proportion of GDP gives an indication of the economic significance of the untapped liquidity that could be released through greater use of more efficient financing tools. Secondly, a calculation of frozen capital on a per capita basis helps to embrace the future potential of emerging or fast-growing economies.

[2] See: Markit Economics, PMI Index, Turkey

Frozen Capital - Industry	
Manufacturing: % GDP	**% of GDP 2009**
China	2.02%
Poland	0.55%
Germany	0.36%
Turkey	0.19%
France	0.16%
United Kingdom	0.10%



China presents a good example of the insights afforded by these two proportionate calculations. Because China is putting so much momentum behind the rapid development of its business infrastructure, it appears that the Chinese level of frozen capital is very high at some 2% of *current* GDP. However, when frozen capital is calculated on a per capita basis, it is Germany that is seen to hold the greatest relative potential for liquidity release. France may seem to have a relatively low frozen capital in industry when viewed as a percentage of GDP, yet when observed on a per capita basis, the country can be seen to be at the top end of the countries studied.

Hi-tech manufacturing is seen by many economists as a particularly important sector to watch and analyse, especially since it often commands high value pricing plus robust margins, and is able to make a disproportionately strong contribution to GDP. In Western Europe, France and Germany offer the greatest potential for liquidity release in this sector, interestingly with France now playing on approximately the same level as Germany, despite the latter's larger economy and overall manufacturing sector. Once again though, Chinese hi-tech manufacturing is the giant among the countries studied.

Frozen Capital – Hi-tech Manufacturing Hi-tech Manufacturing: Millions of Euro	2006	2007	2008	2009
China	7,674	8,249	9,168	9,961
Germany	1,466	1,519	1,592	1,334
France	1,396	1,509	1,486	1,253
United Kingdom	631	829	773	654
Poland	107	126	133	122
Turkey	105	87	78	65

Conclusions

This study from Siemens Financial Services has revealed a large reserve of untapped liquidity potential in manufacturing industry across the globe. The use of asset financing tools, such as leasing, to unlock that liquidity is becoming increasingly urgent in all the countries studied. As credit conditions remain tight, mature industrial countries need to make the most efficient and effective possible use of working capital. In rapidly growing industrial infrastructures, the pressure is conversely to obtain access to the finance necessary to fuel that growth, with availability of standard loan credit on international markets remaining constrained.

Charts

China	*2006*	*2007*	*2008*	*2009*
Frozen Capital - Millions of Euro				
ISIC 3 Manufacturing	70,891	76,918	85,426	87,270
ISIC 31 Processed Food, Beverages & Tobacco	6,982	7,521	8,503	9,495
ISIC 32 Textiles, Apparel & Leather	5,948	5,965	6,562	6,830
ISIC 33 Wood Products & Furniture	1,787	1,985	2,247	2,352
ISIC 34 Paper, Paper Products & Printing	2,660	2,753	3,057	3,375
ISIC 35 Chemicals, Petroleum Refining & Plastic	14,994	15,975	17,326	18,589
ISIC 36 Non-Metallic Mineral Products	5,043	5,316	6,082	6,954
ISIC 37 Basic Metal Industries	8,785	9,495	10,132	10,429
ISIC 38 Fabricated Metals, Machinery & Transport	23,215	25,030	28,188	30,793
ISIC 39 Other Manufacturing	1,612	1,786	1,979	2,058
ISIC 3522, 3825, 3832, 3845 & 385 High Tech	7,674	8,249	9,168	9,961

Germany	*2006*	*2007*	*2008*	*2009*
Frozen Capital - Millions of Euro				
ISIC 3 Manufacturing	11,574	12,442	12,744	10,184
ISIC 31 Processed Food, Beverages & Tobacco	1,038	1,058	1,103	936
ISIC 32 Textiles, Apparel & Leather	153	144	140	109
ISIC 33 Wood Products & Furniture	317	311	322	260
ISIC 34 Paper, Paper Products & Printing	1,076	1,142	1,155	979
ISIC 35 Chemicals, Petroleum Refining & Plastic	2,180	2,353	2,438	1,912
ISIC 36 Non-Metallic Mineral Products	362	370	361	301
ISIC 37 Basic Metal Industries	484	533	566	409
ISIC 38 Fabricated Metals, Machinery & Transport	5,868	6,429	6,651	5,192
ISIC 39 Other Manufacturing	97	101	107	90
ISIC 3522, 3825, 3832, 3845 & 385 High Tech	1,466	1,519	1,592	1,334

France	*2006*	*2007*	*2008*	*2009*
Frozen Capital - Millions of Euro				
ISIC 3 Manufacturing	6,433	6,902	6,942	5,825
ISIC 31 Processed Food, Beverages & Tobacco	894	967	983	896
ISIC 32 Textiles, Apparel & Leather	99	107	102	83
ISIC 33 Wood Products & Furniture	247	262	248	205
ISIC 34 Paper, Paper Products & Printing	401	434	421	352
ISIC 35 Chemicals, Petroleum Refining & Plastic	1,128	1,214	1,162	938
ISIC 36 Non-Metallic Mineral Products	330	351	337	289
ISIC 37 Basic Metal Industries	227	239	228	182
ISIC 38 Fabricated Metals, Machinery & Transport	3,042	3,258	3,210	2,630
ISIC 39 Other Manufacturing	66	72	78	71
ISIC 3522, 3825, 3832, 3845 & 385 High Tech	1,396	1,509	1,486	1,253

United Kingdom	*2006*	*2007*	*2008*	*2009*
Frozen Capital - Millions of Euro				
ISIC 3 Manufacturing	3,645	3,726	3,173	2,724
ISIC 31 Processed Food, Beverages & Tobacco	385	430	406	341
ISIC 32 Textiles, Apparel & Leather	42	46	43	36
ISIC 33 Wood Products & Furniture	147	130	116	92
ISIC 34 Paper, Paper Products & Printing	321	269	248	206
ISIC 35 Chemicals, Petroleum Refining & Plastic	955	1,037	973	770
ISIC 36 Non-Metallic Mineral Products	156	176	146	115
ISIC 37 Basic Metal Industries	101	72	68	48
ISIC 38 Fabricated Metals, Machinery & Transport	1,369	1,378	1,251	1,007
ISIC 39 Other Manufacturing	62	61	58	48
ISIC 3522, 3825, 3832, 3845 & 385 High Tech	631	829	773	654

Poland	*2006*	*2007*	*2008*	*2009*
Frozen Capital - Millions of Euro				
ISIC 3 Manufacturing	2,405	2,818	3,123	2,906
ISIC 31 Processed Food, Beverages & Tobacco	470	551	575	524
ISIC 32 Textiles, Apparel & Leather	68	80	81	73
ISIC 33 Wood Products & Furniture	174	203	207	188
ISIC 34 Paper, Paper Products & Printing	149	175	179	162
ISIC 35 Chemicals, Petroleum Refining & Plastic	533	632	649	542
ISIC 36 Non-Metallic Mineral Products	192	232	239	217
ISIC 37 Basic Metal Industries	113	137	140	109
ISIC 38 Fabricated Metals, Machinery & Transport	686	809	835	755
ISIC 39 Other Manufacturing	21	24	25	23
ISIC 3522, 3825, 3832, 3845 & 385 High Tech	107	126	133	122

Turkey	*2006*	*2007*	*2008*	*2009*
Frozen Capital - Millions of Euro				
ISIC 3 Manufacturing	2,043	1,906	1,712	1,376
ISIC 31 Processed Food, Beverages & Tobacco	186	171	162	134
ISIC 32 Textiles, Apparel & Leather	445	401	335	273
ISIC 33 Wood Products & Furniture	46	40	38	31
ISIC 34 Paper, Paper Products & Printing	79	75	68	57
ISIC 35 Chemicals, Petroleum Refining & Plastic	390	366	334	274
ISIC 36 Non-Metallic Mineral Products	140	129	112	92
ISIC 37 Basic Metal Industries	201	189	177	142
ISIC 38 Fabricated Metals, Machinery & Transport	551	531	481	371
ISIC 39 Other Manufacturing	8	6	6	5
ISIC 3522, 3825, 3832, 3845 & 385 High Tech	105	87	78	65

Industrial Landscape Summaries[3]

China

Overview

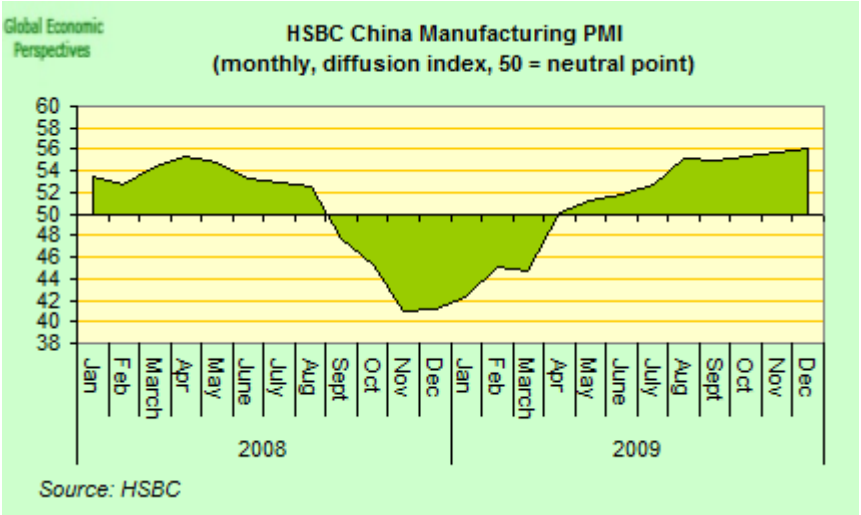
- Industry's contribution to GDP: 48.6%
- Industry's contribution to the labour force: 25%
- Primary industries: mining and ore processing, iron, steel, aluminium, and other metals, coal; machine building; armaments; textiles and apparel; petroleum; cement; chemicals; fertilizers; consumer products, including footwear, toys, and electronics; food processing; transportation equipment, including automobiles, rail cars and locomotives, ships, and aircraft; telecommunications equipment, commercial space launch vehicles, satellites
- Industrial production growth rate: 9.3% (in 2008)

- Value of exports: $1.435 trillion
- Country comparison: 3rd largest exporter in the world (behind EU and Germany)
- Primary exports: electrical and other machinery, including data processing equipment, apparel, textiles, iron and steel, optical and medical equipment
- Primary export partners: US 17.7%, Hong Kong 13.3%, Japan 8.1%, South Korea 5.2%, Germany 4.1%

Trends

- Manufacturing: Strong improvement in operating conditions (as of Nov 2009)
  - The figures represent the most marked improvement in operating conditions in the Chinese manufacturing economy in 5 years
  - Export sales are increasing at the fastest rate since March 2005
  - Staffing levels are increasing at the second-fastest rate in the survey's history, and current employment growth has gone on for 5 months running
  - Yet manufacturers are facing increasing inflationary pressures on input prices

Graph, Chinese Manufacturing PMI:



[3] Sources: CIA; Markit Economics

Germany

Overview

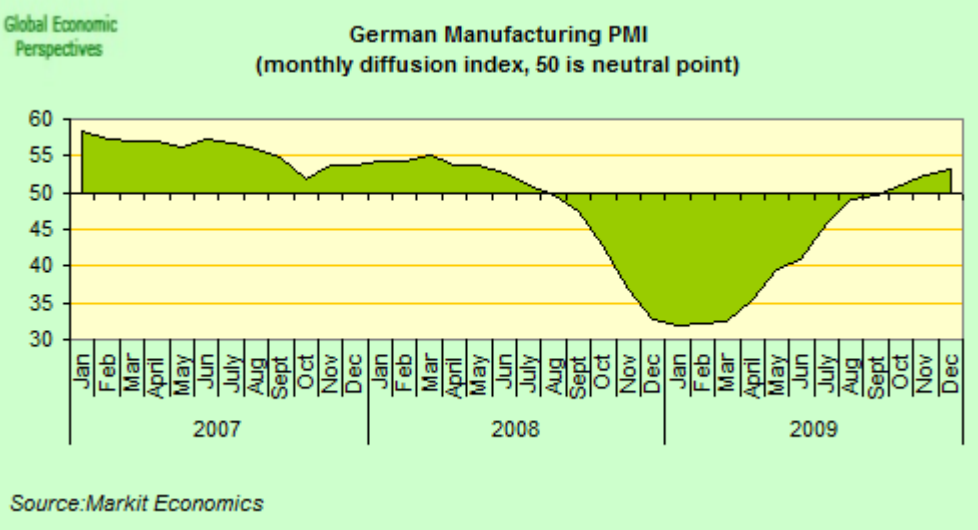
- Industry's contribution to GDP: 30.1%
- Industry's contribution to the labour force: 29.7%
- Primary industries: among the world's largest and most technologically advanced producers of iron, steel, coal, cement, chemicals, machinery, vehicles, machine tools, electronics, food and beverages, shipbuilding, textiles
- Industrial production growth rate: 0.1% (in 2008)

- Value of exports: $1.498 trillion in 2008
- Country comparison: 2nd largest exporter in the world (behind EU)
- Primary exports: machinery, vehicles, chemicals, metals and manufactures, foodstuffs, textiles
- Primary export partners: France 9.7%, US 7.1%, UK 6.7%, Netherlands 6.6%, Italy 6.4%, Austria 5.4%, Belgium 5.2%, Spain 4.4%, Poland 4%

Trends

- Manufacturing sector has seen the strongest output and new order growth in 2 years (as of Nov 2009)
  - Rises occurred in both production and new work
  - New export order growth was the sharpest since Sept 2007
  - Input costs are close to stabilisation as pressure on suppliers increases

Graph, German Manufacturing PMI:



France

Overview

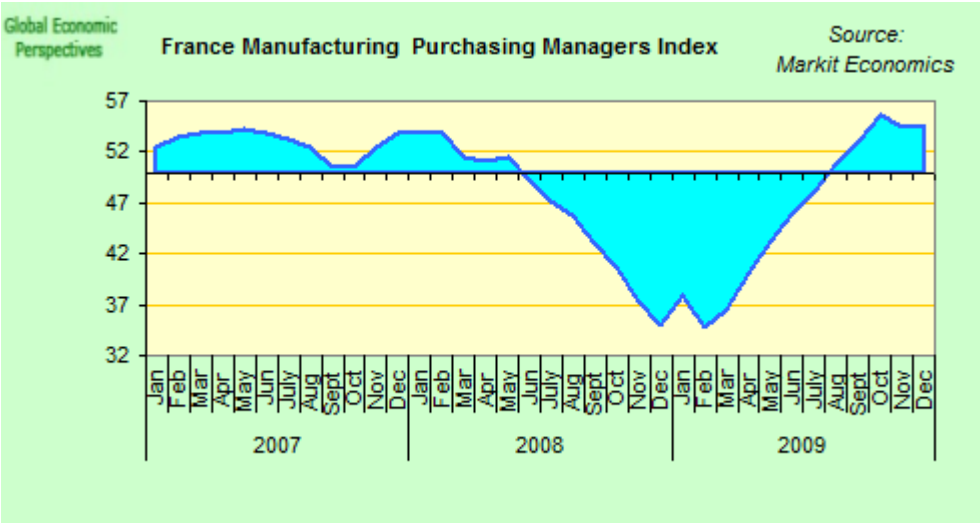
- Industry's contribution to GDP: 20.4%
- Industry's contribution to the labour force: 24.3%
- Primary industries: machinery, chemicals, automobiles, metallurgy, aircraft, electronics; textiles, food processing; tourism
- Industrial production growth rate: -1.8% (in 2008)

- Value of exports: $601.9 billion in 2008
- Country comparison: 6th largest exporter in the world
- Primary exports: machinery and transportation equipment, aircraft, plastics, chemicals, pharmaceutical products, iron and steel, beverages
- Primary export partners: Germany 14.3%, Italy 8.7%, Spain 8.3%, UK 7.8%, Belgium 7.6%, US 5.8%, Netherlands 4.2%

Trends

- Manufacturing sector had the second-highest reading in three years (as of Nov 2009)
  - Rises occurred in both output and new orders
  - Domestic demand has been the principal driver of growth
  - Input prices rose at the sharpest rate since Sept 2008
  - However, there are weaknesses in the sector due to increasing unemployment and falling output prices

Graph, France Manufacturing PMI:



UK

Overview

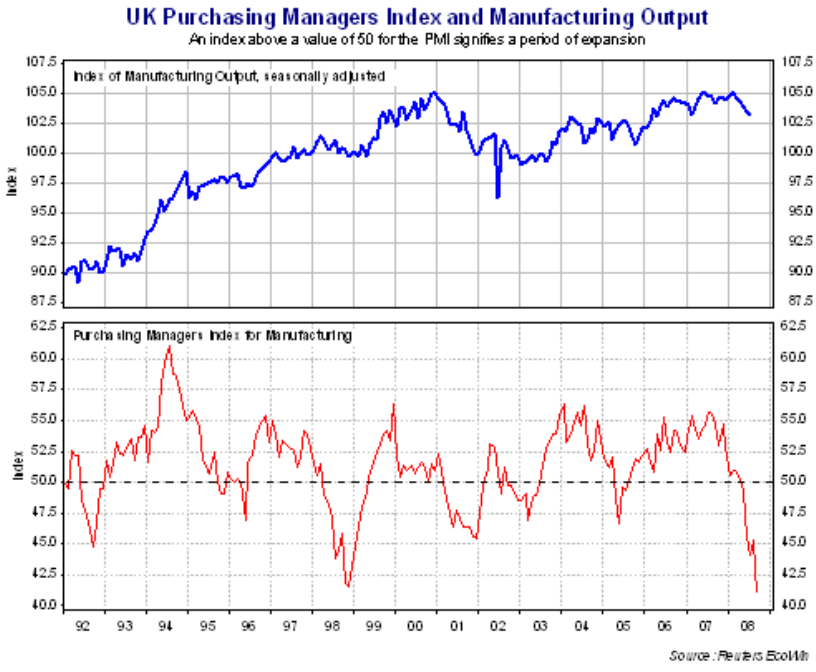
- Industry's contribution to GDP: 24.2%
- Industry's contribution to the labour force: 18.2%
- Primary industries: machine tools, electric power equipment, automation equipment, railroad equipment, shipbuilding, aircraft, motor vehicles and parts, electronics and communications equipment, metals, chemicals, coal, petroleum, paper and paper products, food processing, textiles, clothing, other consumer goods
- Industrial production growth rate: -2% (in 2008)

- Value of exports: $466.3 billion in 2008
- Country comparison: 10th largest exporter in the world
- Primary exports: manufactured goods, fuels, chemicals; food, beverages, tobacco
- Primary export partners: US 13.8%, Germany 11.5%, Netherlands 7.8%, France 7.6%, Ireland 7.5%, Belgium 5.3%, Spain 4.1%

Trends (Market Economics' PMI Indices)

- Manufacturing sector continues to improve, but the rate at which it is doing so has started to decrease (as of Nov 2009)
  - Growth of production and new orders continues, but at a slower rate
  - Employment fell at the slowest pace for 18 months (as of Nov)
  - Output prices have increased for the first time in 10 months
  - New export business has risen at the fastest pace for almost 2 years, reflecting an increase in new work from Europe, the US and Anis
  - However, there are signs that this growth may be reaching its peak
  - Manufacturing employment declined for the 19th month running in November – this was due to redundancy, cost-minimisation and efficiency programmes

Graph, UK manufacturing PMI:



Poland

Overview

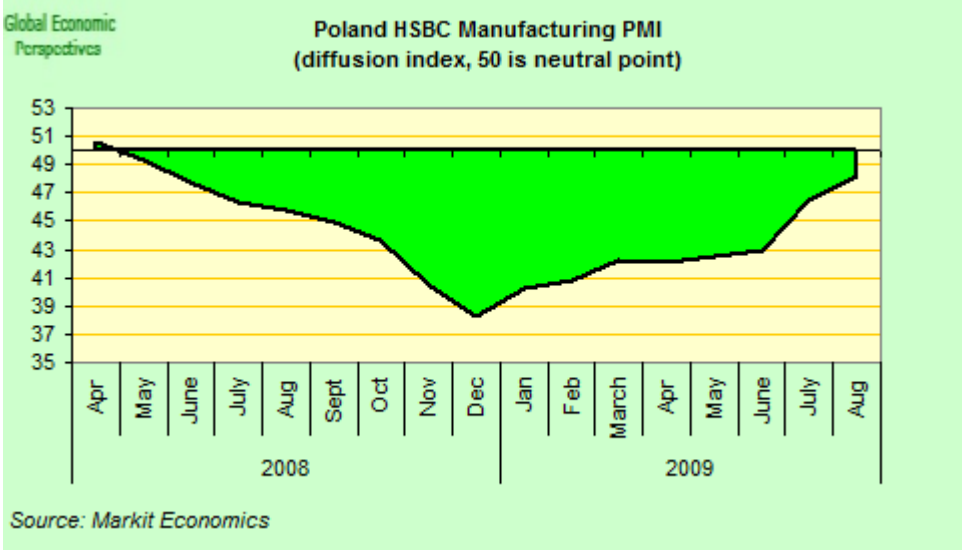
- Industry's contribution to GDP: 31.2%
- Industry's contribution to the labour force: 29.2%
- Primary industries: machine building, iron and steel, coal mining, chemicals, shipbuilding, food processing, glass, beverages, textiles
- Industrial production growth rate: 4.8%

- Value of exports: $178.4 billion in 2008
- Country comparison: 28th largest exporter in the world
- Primary exports: machinery and transport equipment 37.8%, intermediate manufactured goods 23.7%, miscellaneous manufactured goods 17.1%, food and live animals 7.6%
- Primary export partners: Germany 24.9%, France 6.2%, Italy 6%, UK 5.7%, Czech Republic 5.6%, Russia 5.3%

Trends

- Manufacturing: Business conditions improved in Nov 2009, marking the end of a downturn that went on for 18 months
  - Output rose at the fastest rate since July 2007
  - The drop in employment was the lowest in 19 months
  - However, manufacturers are facing sharp inflationary pressures – input prices rose at the fastest rate since Aug 2008

Graph, Poland Manufacturing PMI:



Turkey

Overview

- Industry's contribution to GDP: 27.5%
- Industry's contribution to the labour force: 24.7%
- Primary industries: textiles, food processing, autos, electronics, mining (coal, chromite, copper, boron), steel, petroleum, construction, lumber, paper
- Industrial production growth rate: -0.6%

- Value of exports: $140.7 billion in 2008
- Country comparison: 32nd largest exporter in the world
- Primary exports: apparel, foodstuffs, textiles, metal manufactures, transport equipment
- Primary export partners: Germany 9.8%, UK 6.2%, UAE 6%, Italy 5.9%, France 5%, Russia 4.9%

Trends

- Manufacturing: Sector has experienced growth for 8 months straight (as of Nov 2009)
  - In spite of ongoing growth, the rate of expansion has eased to a 6-month low
  - The rate of growth of new export orders also eased in Nov, although it was still a significant increase
  - Manufacturers continue to face margin pressures, as input prices are rising with charges declining

Graph, Turkey Manufacturing PMI: