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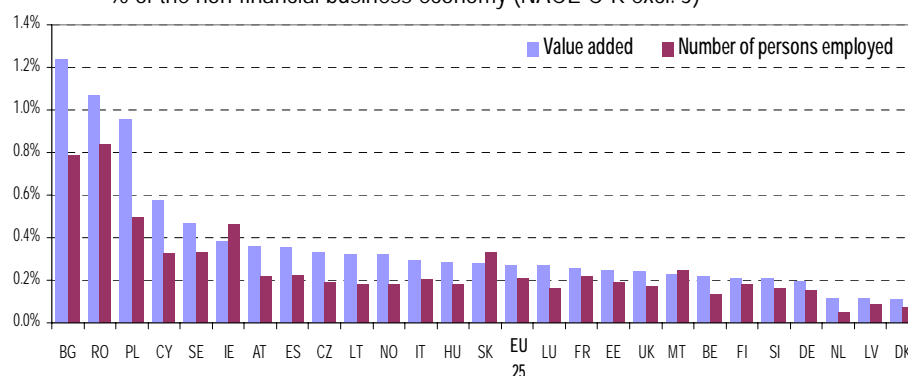


The non-energy mining and quarrying industry in the EU

Bulgaria and Romania most specialised

In 2003, the mining and quarrying of metal ores, stone, sand and clay ('non-energy mining and quarrying', NACE Sub-section CB), was the main activity of 16 400 enterprises in the EU-25, which generated a value added of EUR 13 billion and employed nearly a quarter of a million persons. As such, the industry represented respectively 0.27 % and 0.21 % of the total non-financial business economy (NACE Sections C to K, less J).

Graph 1: Country specialisation in 'non-energy mining and quarrying' (NACE CB), 2003
% of the non-financial business economy (NACE C-K excl. J)



Source: Eurostat (SBS)

IE, MT, NL, SE: 2002. – EL, PT and CH: data not available or confidential.

When looking at the importance of 'non-energy mining and quarrying' in a country's non-financial business economy (Graph 1), Bulgaria was the most specialised, with the sector representing 1.2 % of the total value added generated, which was five times the EU average. The only other countries to display a share of around 1 % were Romania and Poland.

The sector's importance in Member States' economies was greater in terms of value added than for employment in the vast majority of countries, which indicates relatively high apparent labour productivity (value added per person employed) in this sector, when compared with the national non-financial business economy averages. This was especially the case in the Netherlands and Poland where the value-added share was around twice that for employment.

In the EU-25, apparent labour productivity was EUR 53 000 per person employed in non-energy mining and quarrying in 2003 (Table 2), almost 30 % higher than the non-financial business economy average and around 6 % more than the industrial (NACE Sections C-E) average. Average personnel costs were EUR 30 000 per employee, some EUR 2 600 less than the industrial average. As a result of lower average personnel costs and higher apparent labour productivity, wage adjusted labour productivity was significantly higher than the industrial average (170 % compared with 152 %).

As illustrated by Graph 2, the six largest Member States accounted for 77 % of EU-25 non-energy mining and quarrying value added in 2003, which was only around one percentage point more than these countries' combined weight in industry as a whole. While the share of the United Kingdom was 2.3 percentage points more than the country's contribution to EU industry, that of Germany was 10.2 points less.

Sand and stone largest sub-sectors, metal mining small and concentrated

Table 1: Value added and employment in 'non-energy mining and quarrying' (NACE CB) in the EU-25 by sub-sector, 2003

	Total EU value added		Total EU employment		Member State where this sector is most important**
	(in EUR million)	%	(in 1000s)	%	
Mining and quarrying except energy producing materials (CB)	13 000*	100.0	247.9	100.0	Poland
Mining of metal ores (CB13)	1300*	10.0	29.3	11.8	Poland
Mining of iron ores (CB131)	400*	3.1	3.6	1.5	Sweden
Mining of non-ferrous metal ores, except uranium and thorium ores (CB132)	940	7.2	25.7	10.4	Poland
Other mining and quarrying (CB14)	11 692	89.9	218.6	88.2	Portugal
Quarrying of stone (CB141)	2 752	21.2	64.9	26.2	Portugal
<i>Quarrying of ornamental and building stone (CB1411)</i>	2 000*	15.4	46.8	18.9	Portugal
<i>Quarrying of limestone, gypsum and chalk (CB1412)</i>	800*	6.2	14.3	5.8	Estonia
<i>Quarrying of slate (CB1413)</i>	114	0.9	3.7	1.5	Spain
Quarrying of sand and clay (CB142)	7 458	57.4	128.0*	51.6	Cyprus
<i>Operation of gravel and sand pits (CB1421)</i>	6 798	52.3	116.4	47.0	Cyprus
<i>Mining of clays and kaolin (CB1422)</i>	660	5.1	11.6*	4.7	Portugal
Mining of chemical and fertilizer minerals (CB143)	241	1.9	5.8*	2.3	Spain
Production of salt (CB144)	586	4.5	8.7	3.5	Poland
Other mining and quarrying n.e.c. (CB145)	656	5.0	11.1	4.5	Slovenia

*rounded estimate based on non-confidential data: note difference between aggregates and sub-components due to rounding.

Source: Eurostat (SBS)

** most important (specialised): based on value-added share in non-financial market economy.

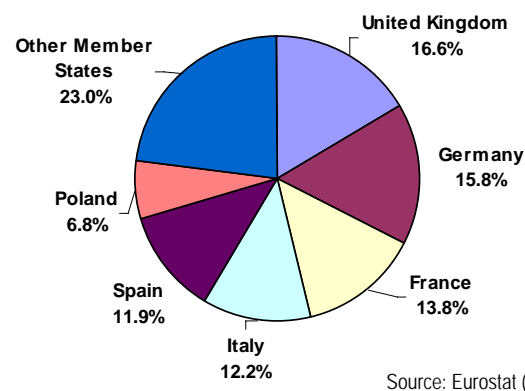
2002 data: SE

Within non-energy mining and quarrying, 'other mining and quarrying' (NACE CB14) was the dominant of the two sub-sectors, accounting for almost 90 % of EU-25 value added in 2003, while 'mining of metal ores' (NACE CB13) only accounted for around 10 % (Table 1). The difference in shares of EU value added and employment indicates differences in apparent labour productivity. In the EU-25, apparent labour productivity was substantially lower in 'mining of metal ores' (around EUR 44 000) than in 'other mining and quarrying' (EUR 53 500). However, productivity in one of the metal mining activities, the 'mining of iron ores', was as high as EUR 110 000 per person employed, more than twice the non-energy mining and quarrying average.

In the EU, the 'mining of metal ores' is concentrated in relatively few locations and dominated by large enterprises: SMEs with below 250 persons employed accounted for only 11 % of employment in the EU-25 in 2003. The widespread availability and local sourcing of many construction materials (such as

sand and stone) are two reasons why 'other mining and quarrying' activities are relatively evenly widespread and that SMEs are much more important, accounting for 81 % of employment in the EU-25 in 2003.

Graph 2: Main contributing Member States to EU-25 value added in 'non-energy mining and quarrying' (NACE CB), 2003, in %



Source: Eurostat (SBS)

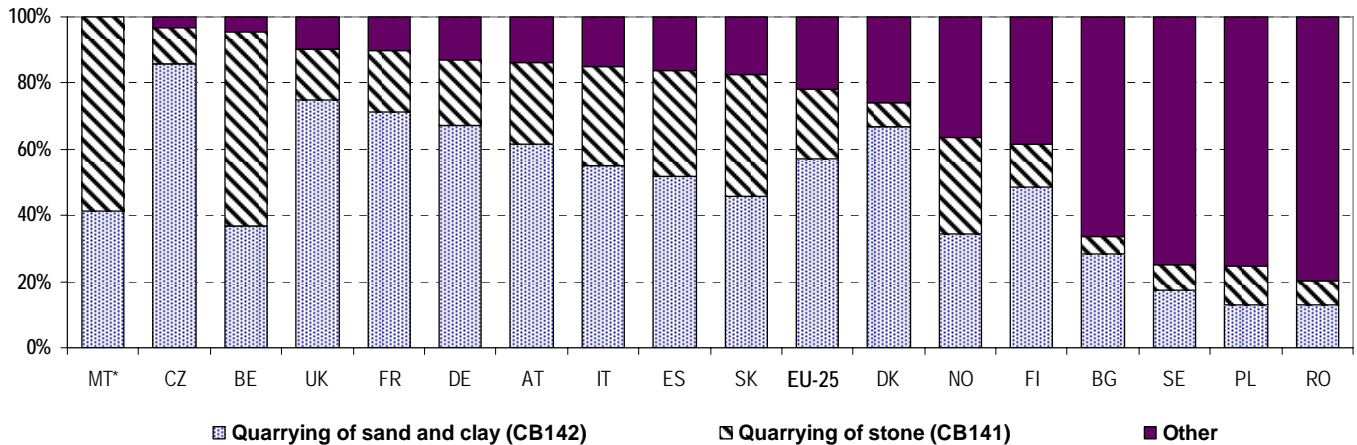
Table 2: Main indicators of 'non-energy mining and quarrying' (NACE CB), 2003

	EU-25	BE	CZ	DK	DE	EE	ES	FR	IE**	IT	CY	LV	LT	LU
Value added at factor cost - in million EUR	13 000*	289	159	105	2 013	11	1 515	1 759	265	1 562	33	6	18	30
Persons employed	247 900	3 158	6 841	1 238	31 530	708	27 259	30 206	4 300	29 811	639	476	1 414	322
Number of enterprises	16 400*	173	243	152	1 598	31	2 490	2 672	80	3 594	95	29	36	13
Turnover - in million EUR	:	725	397	250	5 315	26	3 613	5 879	973	4 115	61	11	43	63
Average personnel costs in thousand EUR	30.0	44.6	9.5	43.0	41.0	7.7	26.7	38.7	42.9	30.1	24.3	4.9	6.0	40.8
Apparent labour productivity (value-added per person employed) - in thousand EUR	53.0*	91.5	23.2	84.9	63.9	15.1	55.6	58.2	61.6	52.4	51.2	11.8	13.0	94.1
Wage adjusted labour productivity - in %	170.0*	205.3	245.7	197.6	155.9	197.6	208.5	150.6	143.7	173.9	211.1	240.3	216.8	230.8
Gross operating rate - in %	16.0*	21.4	24.2	21.5	14.3	20.2	22.8	10.2	8.4	19.9	29.5	31.3	23.1	27.8

* rounded estimate based on non-confidential data. - **2002 data. - EL, PT and CH: data not available.

Source: Eurostat (SBS)

Graph 3: Breakdown of 'non-energy mining and quarrying' (NACE CB), by activity, based on value added, 2003, in %



*MT excludes 'other' categories with negative value added.

MT, SE: 2002 data. – CY, EE, EL, HU, IE, LT, LU, LV, NL, PT, SI: data not available or confidential.

Source: Eurostat (SBS)

Looking more closely at 'other mining and quarrying', 'quarrying of sand and clay' (NACE CB142) was by far the largest of the five activities (57.4 % of non-energy mining and quarrying value added), mainly because of the importance of 'operation of gravel and sand pits' (52.3 %). In fact, the 'quarrying of sand and clay' was almost three times as important as the next largest activity, 'quarrying of stone' (NACE CB 141, 21.2 %), in which 'ornamental and building stone' weighed most (15.4 %). Together, 'quarrying of sand and clay' and 'quarrying of stone' accounted for nearly four-fifths of non-energy mining and quarrying value added and employment.

These two activities also accounted for above 80 % of non-energy mining and quarrying value added in 10 of the Member States with data available, reaching as much as 100 % in Malta and falling to about 20 % in Romania (Graph 3). Graph 3 also shows the category 'other', which covers 'mining of metal ores' (CB13), 'mining of chemical and fertilizer materials' (CB143), 'production of salt' (CB144) and

'other mining and quarrying nec' (CB145), for example of precious stones and other minerals. When the share of 'other' is higher than the EU average (22 %), the country is more specialised in one or more of these activities. For example, 'mining of metal ores' alone accounted for more than half of value added generated in non-energy mining and quarrying in Sweden (74 %, 2001), Romania (68 %) and Bulgaria (56 %) and was very important also in Poland, which explains why the shares of other activities were so high in these countries.

'Mining of chemical and fertilizer minerals' was most important in Norway, where it generated 12 % of sectoral value added. It was followed by Spain and the United Kingdom (with value-added shares of around 5 %). While the 'production of salt' was particularly important in the Netherlands and Denmark, 'other mining and quarrying n.e.c.' was especially significant in Slovenia (where it accounted for 50 % of sectoral value added), in Finland (22 %), as well as in the Netherlands.

Table 2: Main indicators of 'non-energy mining and quarrying' (NACE CB), 2003 (continued)

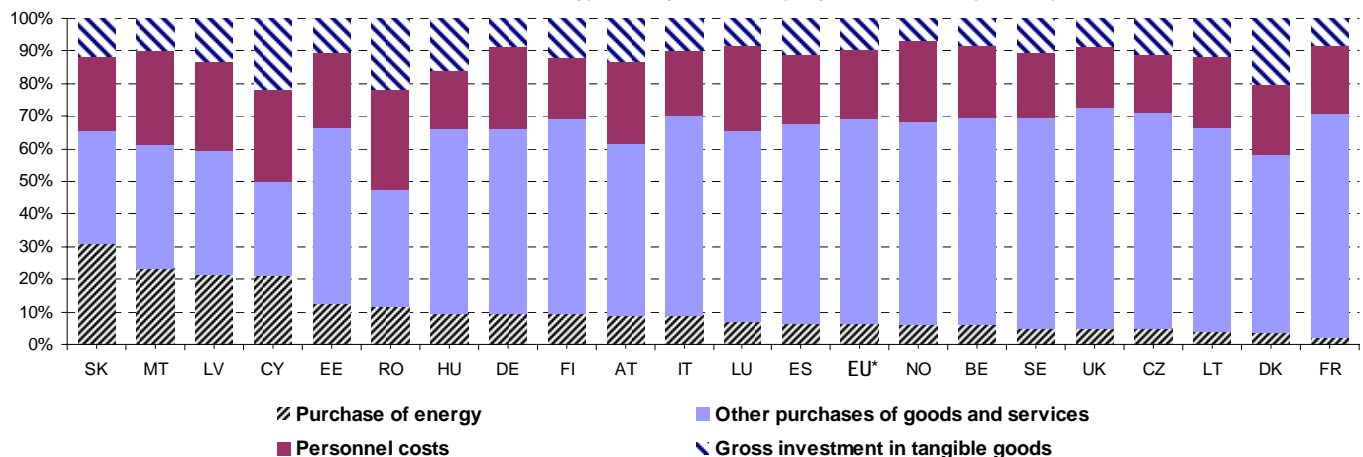
	HU	MT**	NL**	AT	PL	SI	SK	FI	SE**	UK	BG	RO	NO
Value added at factor cost - in million EUR	95	7	274	430	862	27	31	150	615	2 116	84	184	284
Persons employed	4 562	300	2 598	5 092	36 623	898	2 970	2 247	8 644	30 803	13 599	32 857	3 375
Number of enterprises	393	75	150	339	973	123	66	420	474	901	177	406	252
Turnover - in million EUR	238	13	973	932	1 751	70	84	452	1 807	6 987	300	222	709
Average personnel costs in thousand EUR	9.0	10.2	50.1	43.2	13.5	17.6	6.4	39.1	41.4	39.2	3.7	4.1	47.6
Apparent labour productivity (value-added per person employed) - in thousand EUR	20.7	22.4	105.3	84.4	23.5	29.6	10.4	66.8	71.2	68.7	6.2	5.6	84.2
Wage adjusted labour productivity - in %	230.1	220.4	210.2	195.4	174.7	168.1	163.0	170.9	171.9	175.1	166.1	136.0	176.8
Gross operating rate - in %	22.9	33.4	15.2	23.5	21.1	17.2	14.7	21.3	14.8	13.3	11.4	22.3	17.6

**2002 data. – EL, PT and CH: data not available or confidential.

Source: Eurostat (SBS)

6 % of total expenditure on energy, profits decreasing but above industrial average

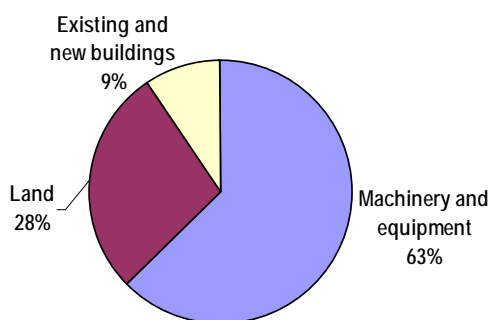
Graph 4: Breakdown of total expenditure in 'non-energy mining and quarrying' (NACE CB) by cost type, 2003, in %



*EU average based on data available for 19 Member States. MT, SE: 2002 data. EL, IE, NL, PL, PT, SI and BG: data not available or confidential. Source: Eurostat (SBS)

In 2003, operating expenditure accounted for 90 % of total expenditure in non-energy mining and quarrying in the EU on average, leaving the remaining 10 % for gross investment in tangible goods (Graph 4). Within operating expenditure, purchase of energy accounted for 6 % of total expenditure, other purchases of goods and services, (for example raw materials, rents, purchases of services) accounted for 63 % of total expenditure, while personnel costs accounted for 21 %. The share of energy costs was highest in several East and South European countries, reaching as much as 31 % in Slovakia and over 20 % in Malta, Latvia and Cyprus. With regard to gross investment in tangible goods, Cyprus, Romania and Denmark recorded the highest shares (around 20 %), twice the EU average.

Graph 5: Breakdown of investment, by type, in 'non-energy mining and quarrying' (NACE CB), EU*, 2003, in %



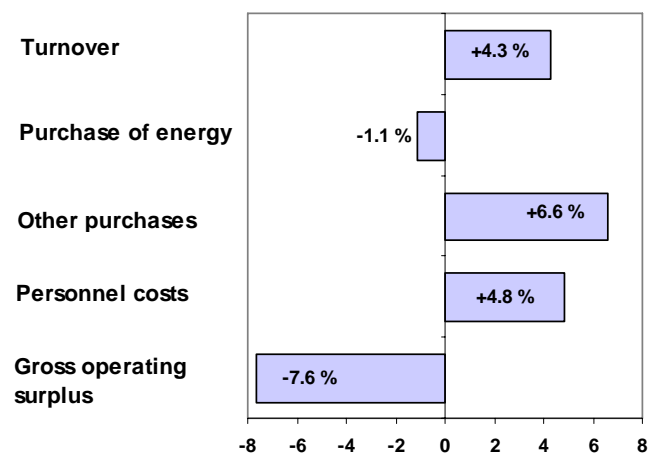
Source: Eurostat (SBS)

*EU average based on data available for 17 Member States accounting for about 79 % of EU value added.

As shown in Graph 5, in 2003 gross investment in tangible goods in the EU non-energy mining and quarrying sector consisted of investments in machinery and equipment (63 %), land (28 %), and existing and new buildings (9 %). Readers should note however that this mostly reflects the situation in 'other mining and quarrying' as very little was invested in 'mining of metal ores' in 2003. Between 2000 and 2003, gross investment declined by 1.9 %

on average in the EU (data not shown). In the same period, turnover increased by 4.3 %, but other purchases (i.e. excluding energy) and personnel costs increased even more (up by 6.6 % and 4.8 % respectively), while energy costs went down by 1.1 % (Graph 6).

Graph 6: Evolution of costs, turnover and gross operating surplus in 'non-energy mining and quarrying' (NACE CB), EU*, 2000-2003, in %

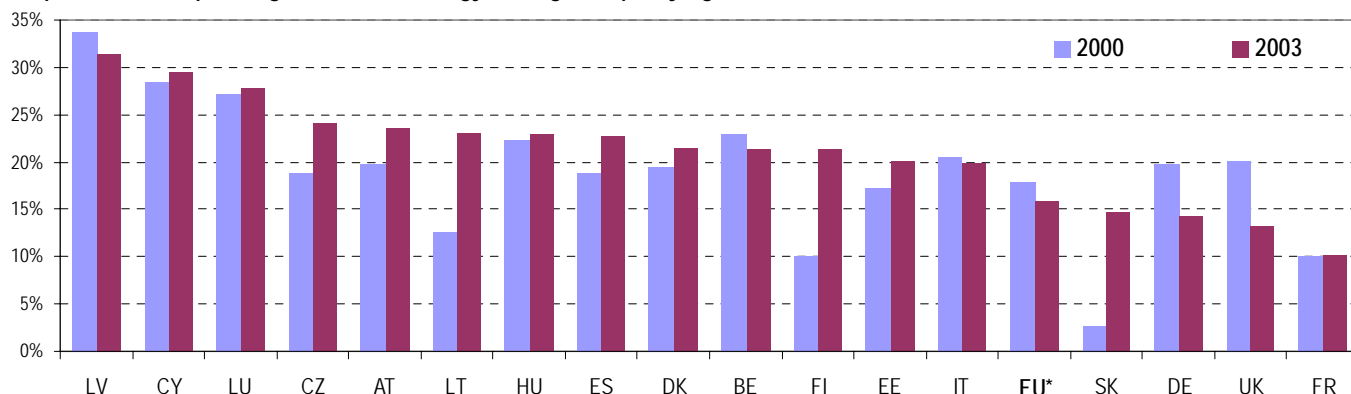


Source: Eurostat (SBS)

*EU average based on data available for 15 Member States accounting for about 79 % of EU turnover.

The net effect of this was a reduction in gross operating surplus of 7.6 %, which is equal to a 1.9 % decline in the gross operating rate (gross operating surplus over turnover), which is one indicator of profitability. From a rate of about 18 % in 2000, the gross operating rate decreased to around 16 % by 2003, which still was clearly above the industrial average (10.3 %). As shown in Graph 7, this decrease was a result mainly of declines recorded among the largest producers, notably the UK (-6.9 percentage points) and Germany (-5.4 points). By 2003, the gross operating rate in these countries had dropped to 13 % and 14 % respectively, making

Graph 7: Gross operating rate in 'non-energy mining and quarrying' (NACE CB), 2000 and 2003, available countries, in %



*EU average based on data available for 15 Member States accounting for 79 % of turnover in 2003.

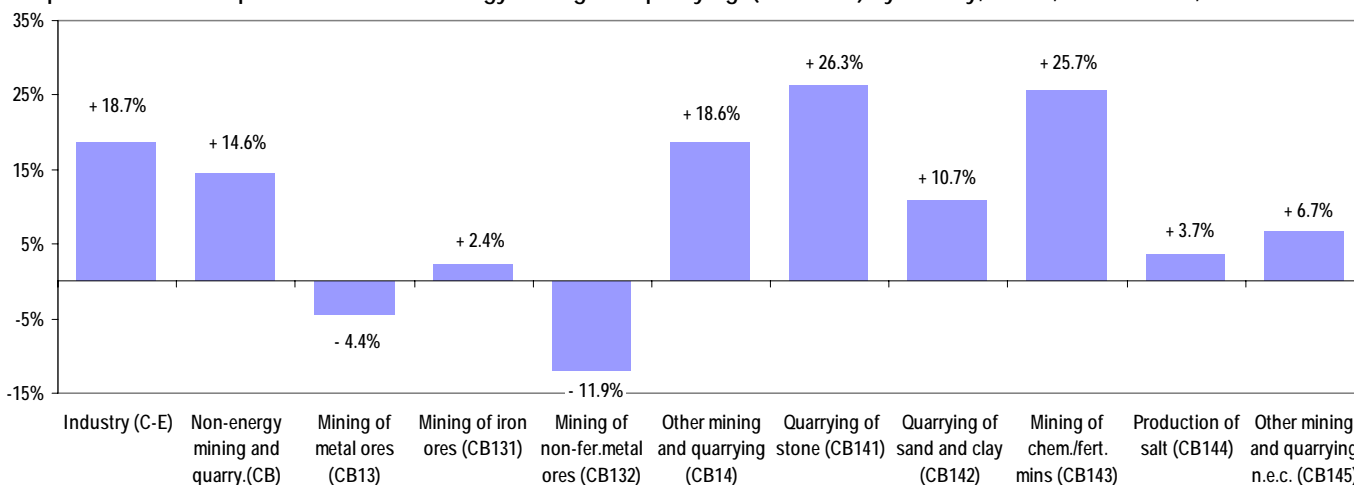
Source: Eurostat (SBS)

them, together with France (10 %), the countries to display the lowest profitability. Although not enough to counterbalance the decrease in the largest producers, 12 of the 17 Member States for which data are available did register increases in the gross operating rate between 2000 and 2003, of which the largest were in Slovakia (12 percentage points), Finland (11.2 points) and Lithuania (10.5 points). In the case of Slovakia, this increase was all the more

noteworthy, given that the gross operating rate was only 3 % in 2000. Latvia's sector recorded the highest gross operating rates in both 2000 and 2003, of respectively 34 % and 31 %, partly because of particularly low personnel costs. Average personnel costs in Latvia were EUR 5 000 per employee in 2003 compared with EUR 30 000 per employee in the EU-25 on average (see Table 1).

Fastest growth for stone quarrying, non-ferrous metal ores contracting

Graph 8: Evolution of production in 'non-energy mining and quarrying' (NACE CB) by activity, EU-25, 1996 to 2005, in %



Source: Eurostat (STS)

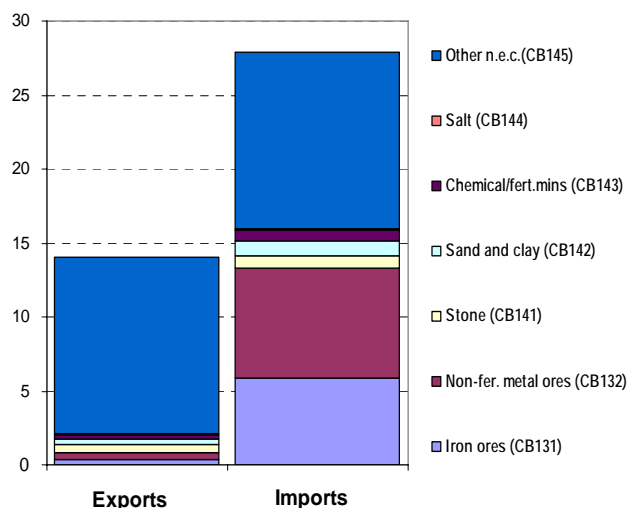
Production in non-energy mining and quarrying grew by 14.6 % between 1996 and 2005, over four percentage points less than the industrial average (Graph 8). Growth in the sector was the result essentially of growth in the largest of the two sub-sectors, 'other mining and quarrying' (+18.6 %), within which every sub-activity recorded an increase. This includes the two activities that dominate the non-energy mining and quarrying sector: 'quarrying of sand and clay' (+10.7 %) and 'quarrying of stone' (+26.3). Meanwhile, production in 'mining of metal ores' decreased over the same period by 4.4 %, mainly because of an 11.9 % decrease in 'mining of non-ferrous metal ores'.

Over the same period, domestic output prices grew by 113 % in 'mining of metal ores' (figures not shown), far more than in 'other mining and quarrying' (+17 %). Growth in prices for 'mining of metal ores' was particularly steep between 2003 and 2005, rising by around 28 % annually, against an average of 8 % in non-energy mining and quarrying. This reflects both the limited supply of and in particular the growing demand for these products on the world market, not least because of the fast economic growth in countries like China and India. At the same time, such price increases mean that extraction on new sites (also within the EU) might become economically viable in the future.

Non-industrial diamonds account for 75 % of total exports

In 2005, EU-25 exports of non-energy mining and quarrying products to non-Community countries generated EUR 14 billion in revenues. As shown in Graph 9, this was half as much as the value of imports (27.9 bn), giving rise to a trade deficit of EUR 13.9 bn. A trade deficit was recorded for all but one of the products (CPA groups), 'salt' – one of the smallest at EU level.

Graph 9: Trade in 'non-energy mining and quarrying' products, EU-25, 2005, in EUR billion



Source: Eurostat (Comext)

Most of the EU's trade deficit can be attributed to 'iron ores' and 'non-ferrous metal ores'. As has been shown, these are small activities within the EU-25, where production has stagnated or contracted in recent years. This means that the EU is becoming increasingly reliant on imports of these basic products, for use for example in downstream metal processing sectors. In fact, EU-25 trade in non-energy mining and quarrying products has generated a deficit at least since 1999. Between 2003 and 2005 the deficit increased by 68 %. This is mainly because of an increase in the value of imports of metal ores, partly a reflection of the steep increase in world market prices.

More than four fifths (85 %) of EU-25 exports of 'other mining and quarrying' products were among 'other mining and quarrying products not elsewhere classified' (CPA Group 14.5), which includes precious and semi-precious stones, as well as bitumen, asphalt and natural abrasives. Equally this was the largest product for imports, but to a much lesser degree, as iron ores and non-ferrous ores accounted for significant shares.

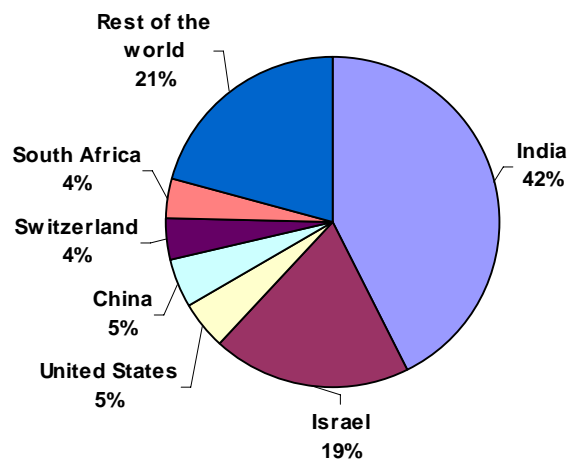
Within this group, non-industrial diamonds (unworked or simply sawn, cleaved or bruted) used principally in the making of jewellery was by far the most significant product, accounting for 75 % of total

exports of 'non-energy mining and quarrying' products and 37 % of imports.

The fact that 'sand and clay' and 'stone' products are relatively insignificant in terms of trade in the EU-25 (together accounting for 6.7 % of exports and 6.6 % of imports) again reflects their widespread availability, which often makes local sourcing relatively cost-effective. Consequently, instead of importing these products, they are to a large extent produced within the EU. As was shown, 'quarrying of sand and clay' and 'quarrying of stone' accounted for nearly four-fifths of the value added generated in the EU non-energy mining and quarrying sector in 2003.

Non-energy mining and quarrying products are unusual industrial products both as regards the destination of exports and the origin of imports. As shown in Graph 10, the main markets for EU-25 exports were India with 42 % of total exports and Israel with 19 %, many times these countries' shares of total industrial exports. This can be explained again by the importance of non-industrial diamonds, which accounted for respectively 92 % and 85 % of the exports of mining and quarrying products to India and Israel.

Graph 10: Main destinations of EU-25 exports of 'non-energy mining and quarrying' products, 2005, in %



Source: Eurostat (Comext)

Imports, finally, originated from a wide range of countries traditionally associated with mining, notably Brazil, South Africa, Russia, Canada, Chile and Australia who all provided 5 % or more of EU-25 imports in 2005. Brazil was the largest supplier, accounting for 11 % of EU-25 imports of non-energy mining and quarrying products in 2005, mainly due to its importance for EU-25 imports of iron ores (42 %). For imports of non-ferrous metal ores, Chile was the EU's most important partner, accounting for 21 % of total imports.

➤ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

DATA SOURCES

The source of all figures presented is Eurostat (unless specifically stated otherwise). Most data sources are continually updated and revised where necessary. This publication reflects the state of data availability in Eurostat's reference database as of July 2006.

Structural Business Statistics (SBS) is the main data source for this publication. Two main SBS data sets have been used: annual enterprise statistics and annual enterprise statistics broken down by size classes. These and other SBS data sets are available under theme 'Industry, trade and services' on the Eurostat website <http://epp.eurostat.ec.europa.eu/> (select 'Data' / 'Industry, trade and services' / 'Horizontal view' / 'Structural Business Statistics'). Selected publications, data and background information are available in the section dedicated to European Business, located directly under the theme 'Industry, trade and services' on the Eurostat website.

COMEXT Eurostat's database on external trade supplied data on the value of exports and imports of products, by type of product (CPA), by reporting Member State and by destination.

Short-Term Statistics (STS) was used to complement SBS data with information on the development of prices based on the 'Domestic output price index' and evolution of production based on the 'Industrial production index', which shows the evolution of value added at factor cost at constant prices.

COUNTRIES

This publication covers the European Union, including the 25 Member States (EU-25): Belgium (BE), the Czech Republic (CZ), Denmark (DK), Germany (DE), Estonia (EE), Greece (EL), Spain (ES), France (FR), Ireland (IE), Italy (IT), Cyprus (CY), Latvia (LV), Lithuania (LT), Luxembourg (LU), Hungary (HU), Malta (MT), the Netherlands (NL), Austria (AT), Poland (PL), Portugal (PT), Slovenia (SI), Slovakia (SK), Finland (FI), Sweden (SE) and the United Kingdom (UK). Also included are the Acceding Countries and EFTA countries with data available: Bulgaria (BG), Romania (RO) and Norway (NO).

EU-25

EU-25 aggregates include estimates for missing components where necessary. EU-25 aggregates from the SBS data set was supplemented by rounded estimates based on non-confidential data where necessary and appropriate. Some differences may exist between aggregates and sub-components due to the rounding. In some cases when no EU totals are available, averages of available countries are presented.

EXCHANGE RATES

All data are presented in ECU/EUR terms, with national currencies converted using average exchange rates prevailing for the year in question.

SYMBOLS

“.” not available or confidential.

SECTORS

Statistics are presented by sectors of activity according to the NACE Rev. 1.1 system of classification. Comparisons are made with the whole non-financial business economy and/or total Industry (NACE Sections C-E). **Non-financial business economy** includes the Sections C (Mining and quarrying), D (Manufacturing), E (Electricity, gas and water supply), F (Construction), G (Wholesale and retail trade), H (Hotels and restaurants), I (Transport, storage and communication) and K (Real

estate, renting and business activities). Note that for these comparisons, Division 73 is excluded for Cyprus, and for Ireland and Norway Section E is excluded.

OBSERVATION UNIT

The observation unit is the enterprise. An enterprise carries out one or more activities at one or more locations. Enterprises are classified into sectors (by NACE) according to their main activity. The enterprise should not be confused with the local unit, which is an enterprise or part thereof situated in one geographically identified place.

STRUCTURAL BUSINESS STATISTICS VARIABLES

Variables are defined according to Commission Regulation No 2700/98 and include:

Number of enterprises

The number of enterprises active during at least part of the reference period.

Number of persons employed

The total number of persons who work in the observation unit, as well as persons who work outside the unit who belong to it and are paid by it. It includes working proprietors, unpaid family workers, part-time workers, seasonal workers etc.

Value added at factor cost

The gross income from operating activities after adjusting for operating subsidies and indirect taxes (including value added tax).

Turnover

The totals invoiced by the observation unit during the reference period, and this corresponds to market sales of goods or services supplied to third parties.

Apparent labour productivity

This is a simple indicator of productivity calculated as value added divided by persons employed.

Average personnel costs

Personnel costs are the total remuneration, in cash or in kind, payable by an employer to an employee for work carried out. This is divided by the number of employees (paid workers), which includes part-time workers, seasonal workers etc, but excludes persons on long-term leave.

Wage adjusted labour productivity (%)

Value added divided by personnel costs, after the latter has been divided by the share of employees (paid workers) in the number of total persons employed. It can also be calculated by dividing apparent labour productivity by average personnel costs.

The gross operating rate (%)

This is an indicator of profitability where the gross operating surplus is related to the turnover generated. The gross operating surplus is the surplus generated by operating activities after the labour factor input has been recompensed. It can be calculated from the value-added at factor cost less the personnel costs.

Purchases of goods and services

All goods and services purchased for resale or consumption in the production process, excluding consumption of fixed capital.

Purchases of energy products

Includes energy purchases for the purposes of fuel, but excludes energy products purchased as raw materials or for resale.

Gross investment in tangible goods

All new and existing tangible capital goods, whether bought from third parties or produced for own use, having a useful life of more than one year including non-produced tangible goods such as land.

Further information:

Data: [EUROSTAT Website/Industry, trade and services/Industry, trade and services - horizontal view/Structural Business Statistics \(Industry, Construction, Trade and Services\)/Annual enterprise statistics/Annual detailed enterprise statistics on mining and quarrying](#)

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Eurostat set up with the members of the 'European statistical system' a network of support centres, which will exist in nearly all Member States as well as in some EFTA countries.

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