

Tax benchmarking survey for the chemical industry* 2007



A current challenge for the tax professional is to identify the right balance when planning for taxes. On one side of the balance, taxes are a significant cost to the corporation and should be controlled and managed in the quest to create shareholder value and maximize earnings per share. On the other side, the amount of tax paid by large corporations is coming under increasing scrutiny and public debate.

The proposition being put forward by some is that large companies are not paying their fair share in taxes and therefore there is an increased tax burden on others, including individuals, to fund spending on social investment. Tax benchmarking is one way of helping to judge this balance. It allows corporations to identify how much they are paying compared to other companies in the industry. It may highlight a high tax rate which could be due to lack of efficient control and management of the tax function. Conversely, it could highlight a low tax rate compared to the peer group which could be due to a tax strategy which, if successfully challenged, could harm the company's reputation and weaken the brand.

This study took 46 of the leading global chemicals companies from the fine, basic, bulk, specialty, and petrochemicals sectors—companies are listed in the Appendix. Within the sample, 23 companies were US based, 6 from Germany, 5 from Japan, 3 from the Netherlands, 2 from China, Switzerland, Canada and France, and 1 from UK. This report summarizes the findings from benchmarking key financial indicators for tax for the last 3 years. All information is taken from publicly available financial statements spanning the period January 2003 to September 2006. (Nine companies in our sample have non-31 December year ends and their 2006 data is included. The data for these companies over the 3 years ending in 2004, 2005, 2006 is shown as 2003, 2004, 2005 respectively.)

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Key findings

The 3-year average effective tax rate (ETR) for the 46 companies included in this study is 29.5%. The average ETR has moved by 2.4% between 2003 and 2005.

The ETRs of “Multinational” companies are lower (3-year average 28.5%) than those of “Domestic” companies (3-year average 33.7%).

The ETRs of US based companies rose in 2005 compared to those of foreign-based companies reflecting the impact of the American Jobs Creation Act (“AJCA”).

US chemical companies have ETRs lower than US companies in the retail & consumer and entertainment & media industries, although above those of the technology & telecommunications industries.

International rate differences and tax credits are significant favorable drivers of the tax rate. Increase in valuation allowance and the American Jobs Creation Act are unfavorable drivers.

Our analysis indicates a reduction in the amount of additional tax reserves being recorded and an overall increase in tax payments as a percentage of income before tax.

Corporate income tax is only part of the total tax contribution made by chemical companies. Other business taxes include property taxes, employment taxes, environmental taxes and industry taxes. This has implications for both internal management of all business taxes and transparency over reporting of all business taxes paid.

Tax rate benchmarking in the chemical industry

In this study, we analyzed 4 key tax ratios:

Effective tax rate (ETR): This is the tax provision as a percentage of income before tax taken from the face of the income statement. It gives a basic analysis of the impact of tax on results.

Current tax rate: This is the current tax provision as a percentage of income before tax where current tax is that element of the total tax charge that is not deferred. Comparing this ratio to the effective tax rate gives an indication of the impact of deferred tax.

Cash tax rate: This is the cash tax paid as a percentage of income before tax where cash tax paid is the amount of corporation tax paid during the period. It gives an indication of the true cost of tax to the company.

Cash tax paid as a percentage of current tax provision: This ratio may give an indication of the level of tax reserves included in the current period tax provision. Assuming fairly constant profits, cash tax paid during the year should be approximately equal to the current tax provision recorded during the same period. A lower ratio indicates that the current tax provision is higher than the cash tax paid during the year and, as a result, there may be an element of tax reserves within the current tax provision.

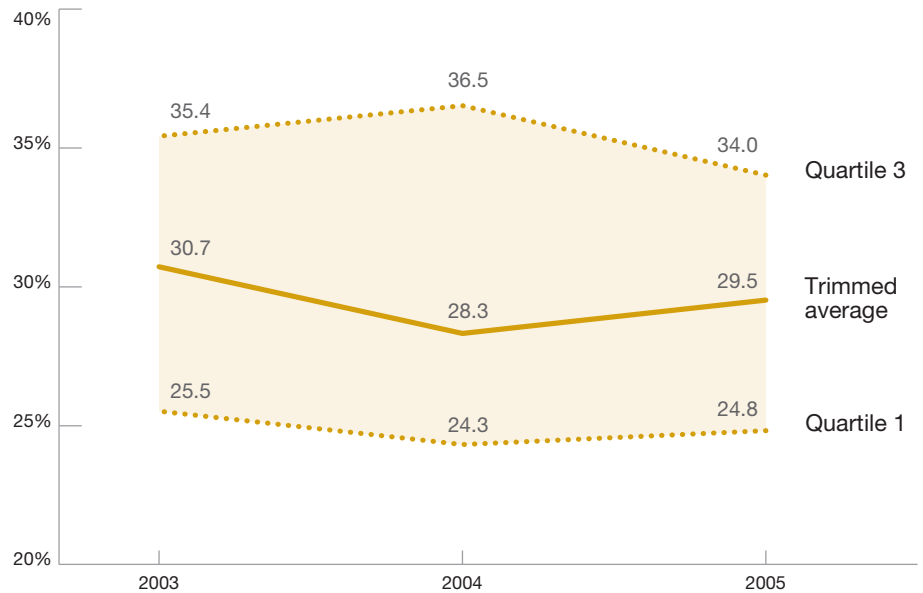
Effective tax rate

The average ETR of the companies taken over the 3-year period is 29.5%.

The ETR has moved by 2.4% between 2003 and 2005. The upper and lower quartiles show a total movement of 2.5% (upper quartile) and 1.2% (lower quartile). Further analysis of a variety of other tax ratios reveals some interesting trends.

Fourteen companies in the sample incurred a loss before tax or a tax refund in the three years under review. This can distort the ETR but in this study, the average 3-year ETR excluding these companies is 31.9%, and our analysis has been carried out including these companies.

Effective tax rate



The trimmed average, throughout this Survey, represents the average ratio for companies (excluding outliers) in the sector for the last 3 financial periods.

Quartile 3 and Quartile 1 represent the resulting ratio where 75% and 25% of companies lie below that point respectively.

For further detail on the trimmed average and the quartiles, see the Appendix.

Cash tax paid as a percentage of current tax provision

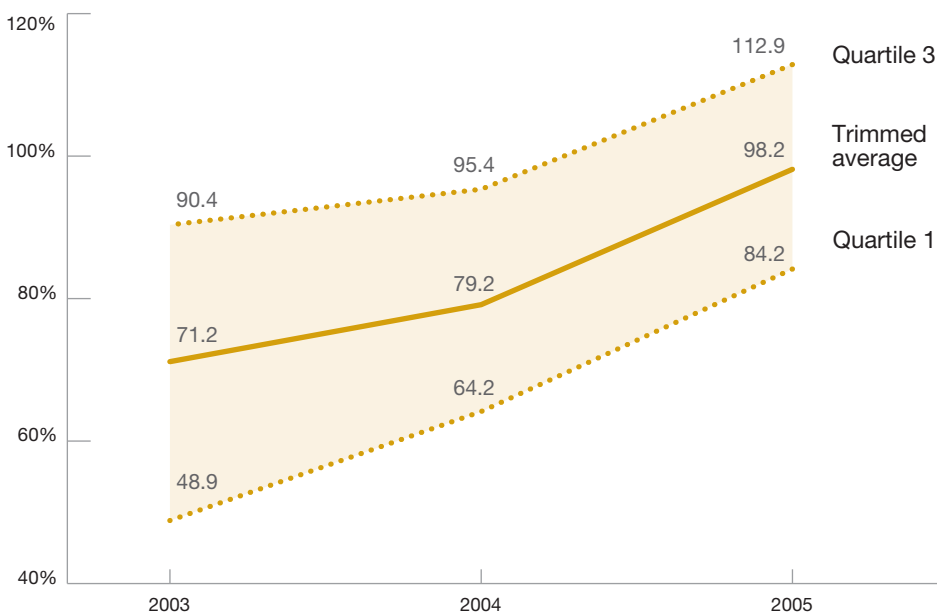
An interesting trend is observed from the ratio of cash tax paid as a percentage of current tax provision. This ratio may give an indication of the level of tax reserves included in the current period tax provision. Assuming fairly constant profits, cash tax paid during the year should be approximately equal to the current tax provision recorded during the same period. A lower ratio indicates that the current tax provision is higher than the cash tax paid during the year. This could imply that the company may be recording reserves in its tax provision over and above the tax paid to the tax authorities. Companies adopting aggressive tax strategies would be more likely to book current year reserves to allow for the possibility of a successful challenge from the tax authorities.

Mostly, the cash tax to current provision ratios are below 100%, indicating that companies generally continue to build tax reserves. However, over the period of the study, the ratio has been increasing in all quartiles, indicating that the amount of additional reserves being recorded is decreasing.

The steep percentage rise in 2005 is indicative that the recent increased scrutiny (possibly e.g., specific issue rationalization versus general basket approach, the new accounting rules (FIN 48) on the horizon, etc.) is possibly resulting in reduced reserves being recorded.

We analyzed the impact on cash taxes related to the exercise of employee stock options. Eliminating this benefit, the average ratio of cash tax as a percentage of current tax increased by only 1.7% and the impact is negligible.

Cash tax paid as a percentage of current tax provision

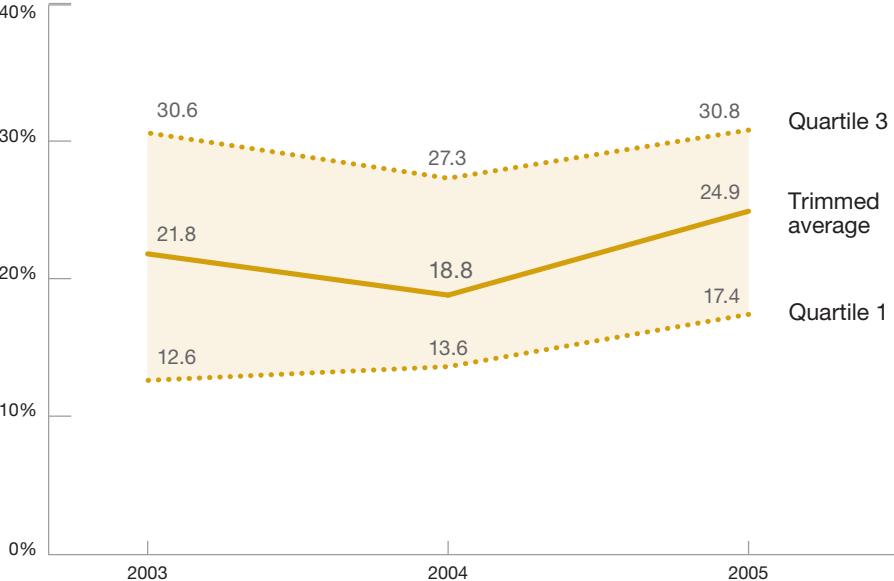


Cash tax paid as a percentage of income before tax

While the ETR gives a basic indication of the impact of tax on results, some consider the cash tax rate, that is, the cash tax paid in the year (as disclosed in the cash flow statement or supplementary information to the cash flow statement) as a percentage of income to be a better measure of the true cost of tax to the company. Although there will be an element of timing mismatch, for example, in some territories 50% of tax due on profits is not paid until after the year end, on a trend basis the ratio gives a good picture of a company's tax cost.

The average rate over the 3 years is 21.8%. It is interesting to note the decrease in spread between the upper and lower quartiles over the period of the study, perhaps as a result of the increased attention on tax payments made by corporations.

Cash tax as a percentage of income before tax



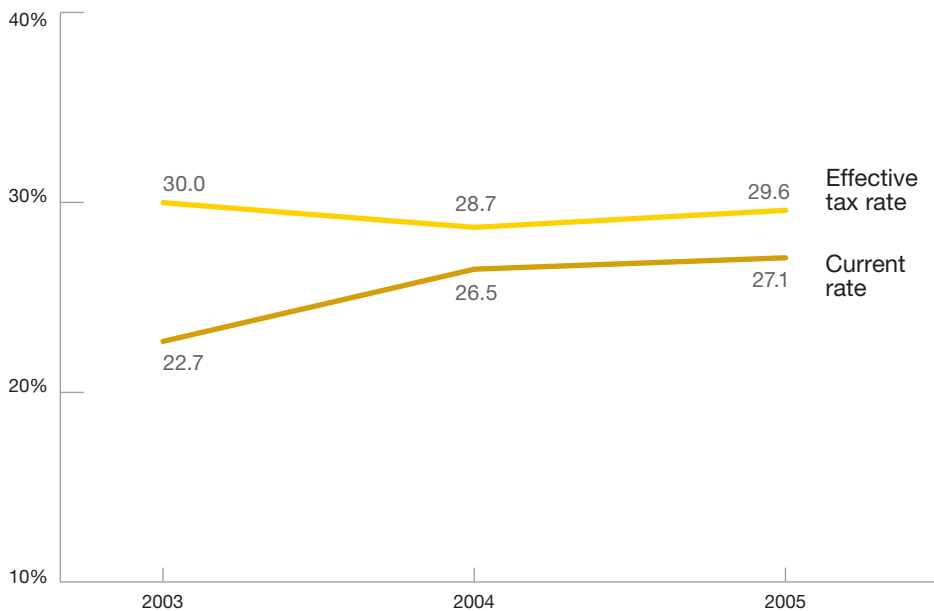
Current tax as a percentage of income before tax

The current tax rate is effectively the ETR excluding the effect of deferred taxes.

The current tax rate is lower than the ETR, indicating that companies have, on average, net deferred taxes contributing approximately 2 to 8 percentage points to the effective tax rate.

The decreasing gap could indicate that deferred tax liabilities are decreasing or deferred tax assets are increasing.

Current tax as a percentage of income before tax



Geographies — “domestic” vs. “multinational”

Globalization has a significant impact in this study. We categorized the companies in this study as “multinational” if more than 25% of their gross revenue was derived from outside their home territory and “domestic” if less than 25% of their gross revenue was derived from outside their home territory. (Classification was based on most recent 10-K available).

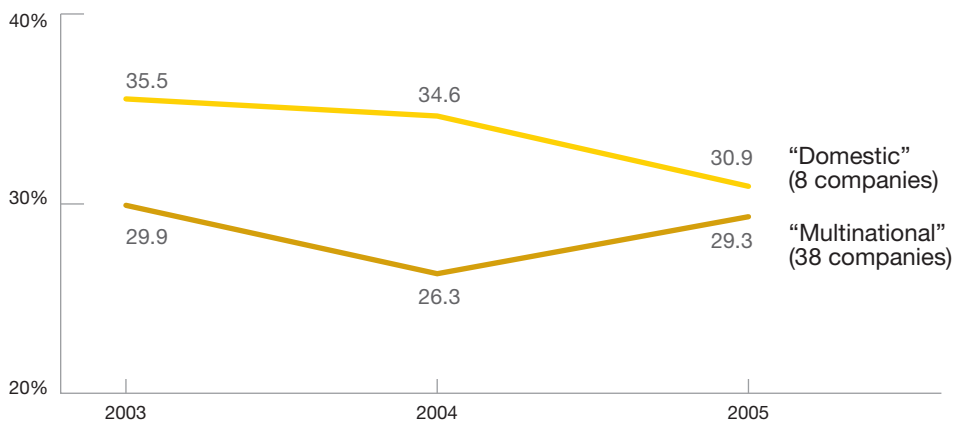
The lower ETR of “multinational” companies is a reflection of the fact that companies operating internationally have opportunities to undertake cross-border tax planning. Profits may be earned in territories with statutory tax rates lower than the domestic statutory tax rate and as opportunities arise to undertake cross-border tax planning, a benefit can be taken from differences in tax regimes with specific operations located in tax efficient locations.

Transfer pricing implications and increasing merger and acquisition activity in the global chemical industry has meant that transfer pricing issues are high on the agenda for chemical companies.

The “domestic” companies are largely based in Asia, with 6 of the 8 companies based in China or Japan. This small grouping of 8 companies is affected by the low ETR of a particular company in 2005 which has a downward impact on the ETR. Excluding this company, the ETR of “domestic” companies in 2005 is 33.5%.

There has been an upward trend in the ETR of “multinational” companies in 2005. Twenty-three of the 38 “multinational” companies are US based and this perhaps is a reflection of the impact of the American Jobs Creation Act. Further analysis of this issue was carried out by comparing ETRs of US-based and foreign-based companies in the sample.

Effective tax rates of “multinational” and “domestic” companies



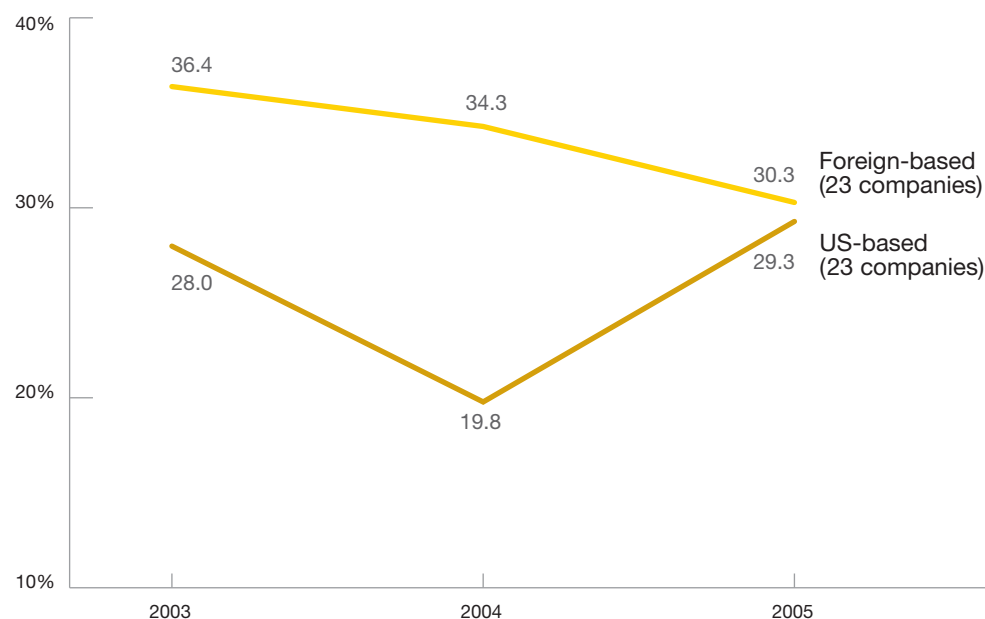
Geographies — US-based vs. foreign-based

This chart shows the ETRs of US-based and foreign-based companies in our sample.

The US-based companies had significantly lower ETRs in 2003 and 2004 but the differential narrowed in 2005.

One explanation for this is the American Jobs Creation Act. The AJCA provided US-based multinationals with a one-time opportunity to repatriate foreign earnings at a reduced rate of tax (generally 5.25%). Although this reduced the possible US tax cost by 85%, this 15% cost was incremental. Most companies had previously asserted the APB 23 indefinite reversal exception and had not recorded deferred taxes for these earnings, resulting in one-time significant (albeit reduced) charges in 2005.

Effective tax rates of US-based and foreign-based companies

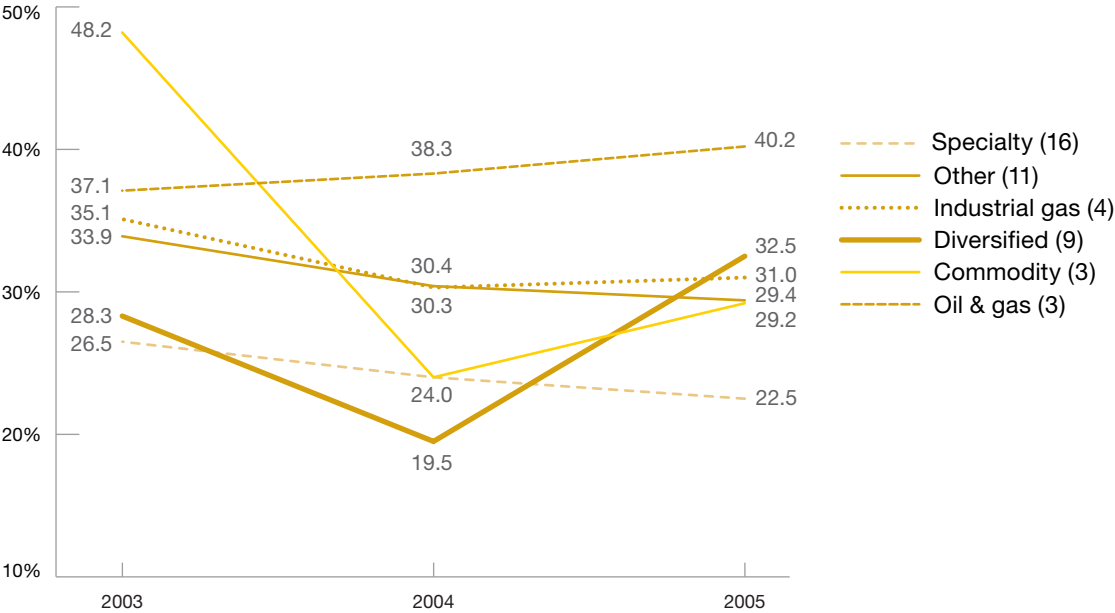


Sector analysis

This chart shows the ETRs of the companies in our sample split into the following sectors: oil & gas, commodity, diversified, industrial gas, specialty, and other.

Oil & gas companies had significantly higher ETRs than commodity, diversified, industrial gas and other companies within our sample. Conversely, specialty had an ETR that was significantly lower than all of the companies in our sample.

Effective tax rates of the companies in our sample by sector

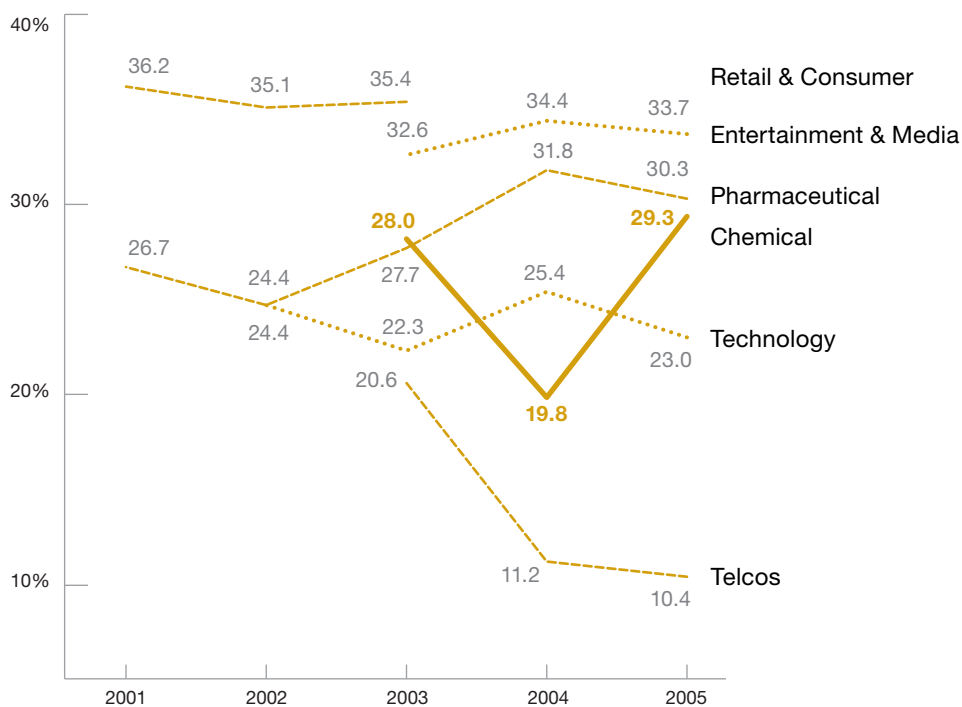


Chemical industry vs. other industries

PwC has performed benchmarking studies for various industries and the chart below shows the ETR trend line of the US-based chemical companies vs. US-based companies in other industries studied to date.

US chemical companies have ETRs significantly lower than US companies in the retail & consumer and entertainment & media industries, although above those of the technology and telecommunications industries. One factor influencing this is the existence of losses in the technology and telecommunications industries, particularly the technology industry, which has a downward influence on the ETR.

Effective tax rates of chemical industry vs. other sectors



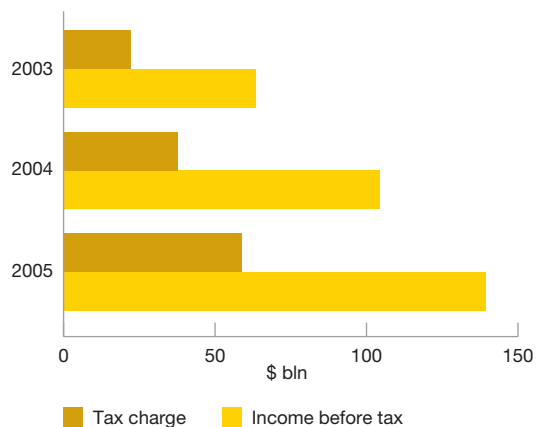
Weighted average vs. straight average

It is possible to calculate the ETR based on total income taxes of all companies in the study as a percentage of total income before taxes of all companies. This has the effect of weighting the ratio towards the larger companies in the study but it can be said that this is a better reflection of the chemical industry as a whole.

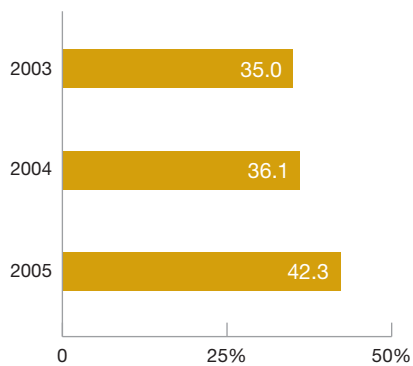
There has been a substantial increase in both the income before tax (120%) and tax charge (165%) in the study companies. This is largely due to some of the oil companies in the study which accounted for a 60% of the increase in income before tax and 70% of the increase in tax charge.

The average ETR based on the weighted ETRs is 37.8% which is substantially higher than the average ETR based on the trimmed average of 29.4%. Again this reflects the impact of the large oil companies in the weighted ETR.

Income before tax and income tax charge



Effective tax rate



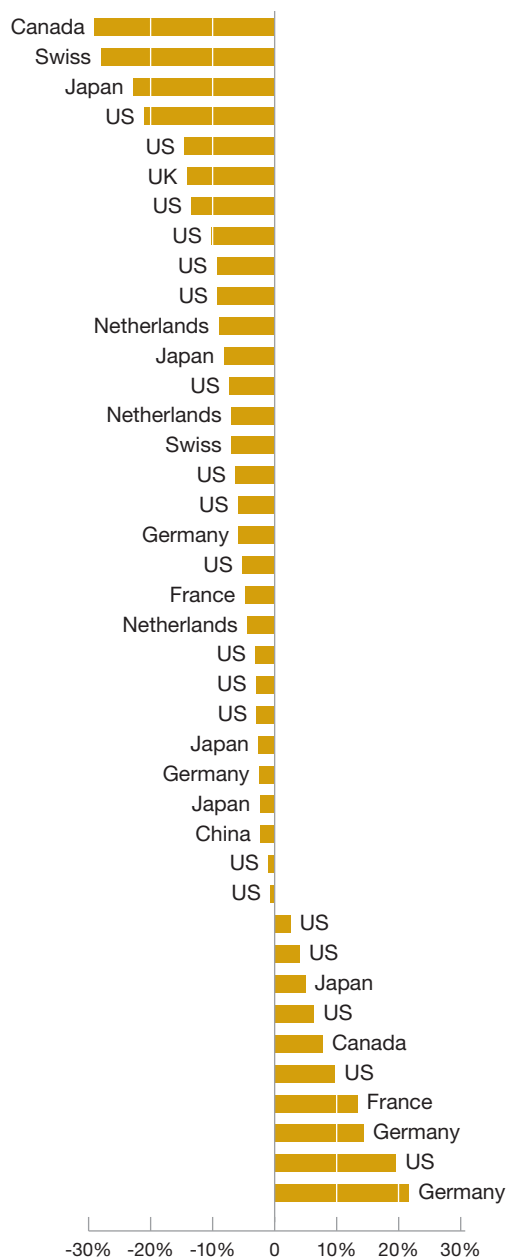
Tax drivers in the chemical industry

A number of factors drive the tax rates of chemical companies up and down. A tax professional has a number of different options available when seeking to manage and control the tax charge.

In general, the ETRs of our sample were below relevant statutory rates. In the following chart, each bar represents a company and the size of the bar shows the impact of the reconciling items. Where a company has a negative bar, the ETR is below the statutory rate and a positive bar indicates that the ETR is above the statutory rate. The company at the bottom of the chart is based in Germany and has a bar of +22%. This indicates that reconciling items increase the statutory rate of 38% by 22% to leave an effective rate of 60%. Three companies at each end of the spectrum have been omitted since their bars are distorted and in excess of -30% and +30%.

The overall picture is one where the tax rate is frequently driven below the statutory rate.

Impact of reconciling items on statutory rate 2005



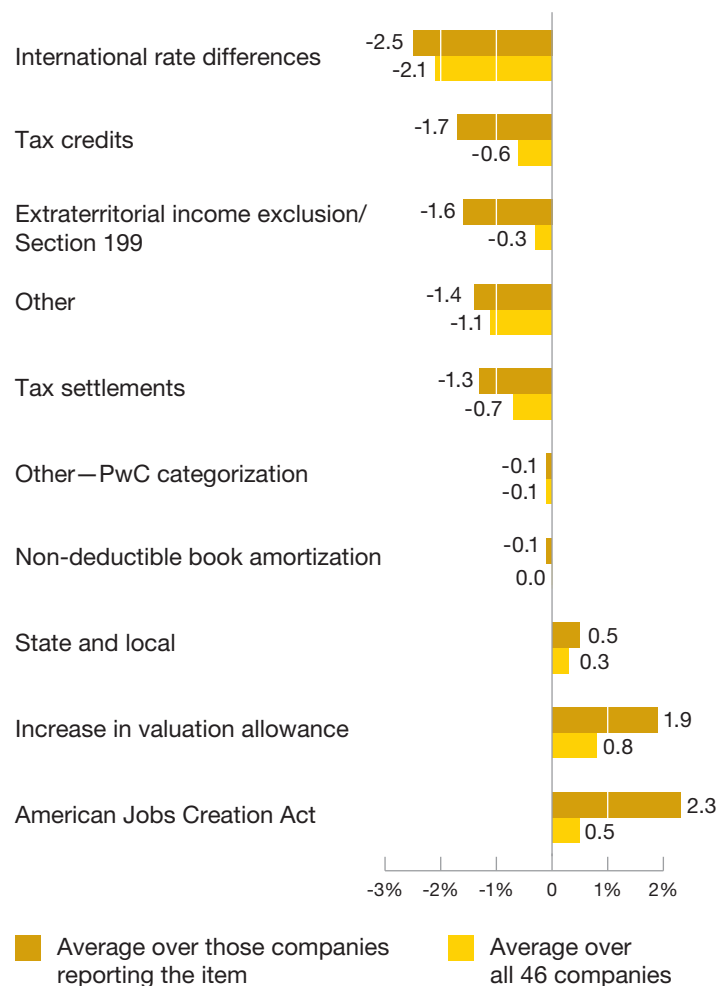
The reconciling items, as disclosed in the statutory/effective rate reconciliation were analyzed, collated and averaged over the sample. We have used two methods of averaging over the sample:

- Averaging over only those companies that reported the reconciling item.
- Averaging over all 46 companies. Using this method, reconciling items reported by most companies in the sample will show more of an impact than those items reported by only a few companies in the sample.

Any individual reconciling items greater than +30% or less than -30% have been removed from the averages due to their distorting effect. “Other—PwC categorization” is a PwC grouping to avoid excessive detail.

While the impact of state taxes, international rate differences and “other” are reported by most companies in the sample, it is apparent that valuation allowance, tax credits and AJCA/repatriation have a significant impact on those companies reporting these items.

Average reconciling items



International rate differences

This reconciling item was reported by a number of companies in the sample showing the benefit to the industry of increasing globalization.

Tax credits

Credits are offered by jurisdictions as incentives and may affect a company's behavior. This category primarily included research and development credits, business credits and incentives. There was a big impact for those companies reporting this item and interesting commentary in the US about extending and strengthening the R&D tax credit

Extraterritorial income exclusion/manufacturing deduction (Section 199)

In the US, businesses that derive income from qualifying export sales and other qualifying foreign lease and service income are entitled to a special income tax exclusion. This benefit, however, is being phased out in favor of a special deduction for income attributable to qualifying domestic (US) manufacturing which is being phased in.

Tax settlements

This category reflects the impact of tax settlements and movement of tax reserves.

American Jobs Creation Act/repatriation

Among its various provisions, the AJCA created a temporary incentive for US corporations to repatriate accumulated income earned abroad by providing an 85% dividends received deduction for certain qualifying dividends from controlled foreign corporations. The deduction results in an approximate 5.25% federal tax rate on the repatriated earnings and this item reflects charges from this and other cash repatriation.

Change in valuation allowance

A valuation allowance is recorded when it is not more likely than not that a deferred tax asset is recognizable. The valuation allowance is offset against the deferred tax asset, offsetting the asset on the balance sheet and creating a charge to the income statement. Although there were many valuation allowance changes going both directions, the net of these to the companies overall is a valuation allowance increase in the current year.

Other

This category includes items described as "other" in the companies' reconciliations.

Total tax contribution

This study has focused entirely on corporate income tax. However, companies pay many other business taxes but these are not generally visible from their financial statements. Greater transparency over all taxes paid (the company's Total Tax Contribution) will help disclose the impact of tax on the business and its stakeholders.

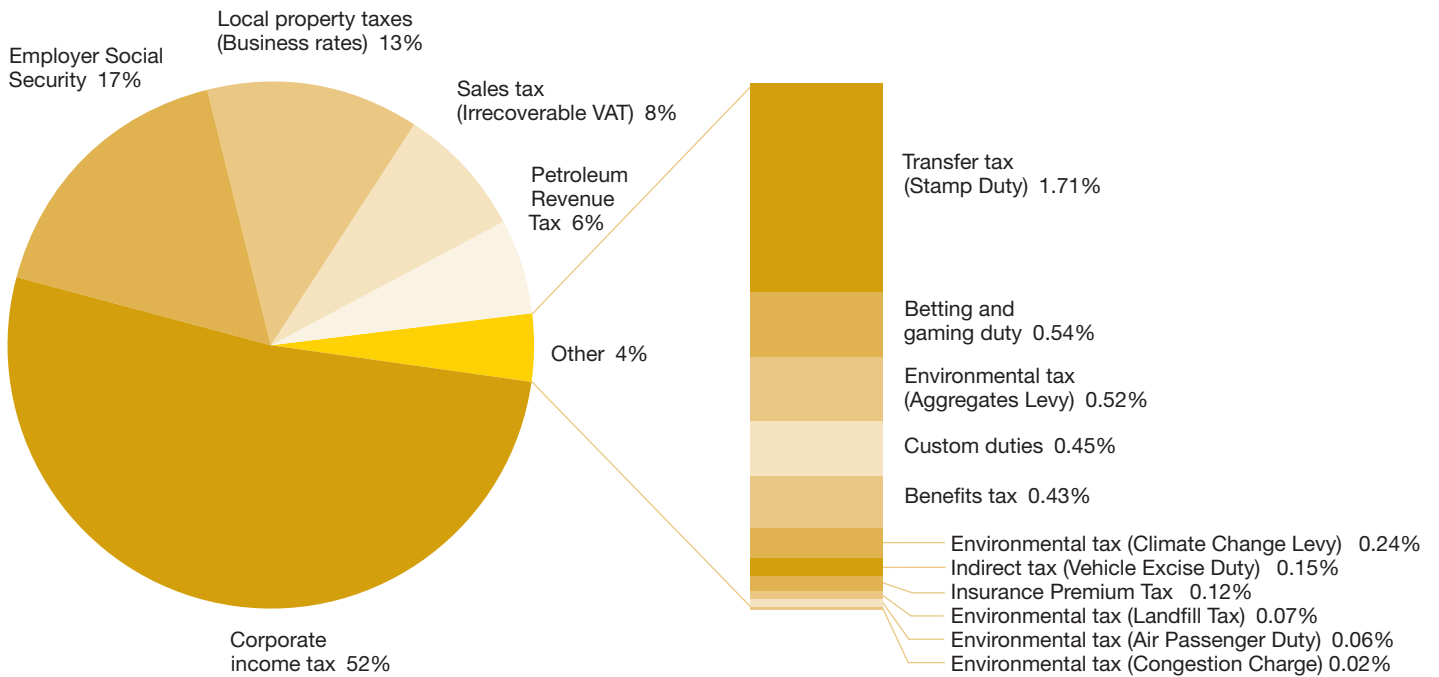
The tax landscape is changing. Companies are coming under increasing scrutiny for their corporate income tax planning, and wider groups of stakeholders are becoming more interested in companies' tax payments. High profile corporate failures, such as Enron, have moved tax up the risk priorities and placed it firmly on the boardroom agenda. Campaigning groups are calling for companies to pay their fair share in tax and tax is now firmly on the agenda of the corporate responsibility movement. To quote Jeffrey Owens, the senior tax official at the Organization for Economic Co-operation and Development: "Tax is where the environment was [as a corporate responsibility issue] ten years ago." The implication is that if companies pay less, due to their corporate income tax planning, poorer sections of society are asked to pay more.

An appreciation of the full extent of the business taxes that companies pay, in addition to corporate income taxes will inform the debate on what companies contribute. A recent study in the UK has identified 21 business taxes in addition to Corporation Tax which are paid by companies, and in Australia there are in excess of 50. There is a lack of transparency about these taxes. In many cases, the only information on taxes in the public domain is that disclosed in a company's financial statements within its annual report which often provides information only on corporate income taxes. There is often no information included on all the other taxes, duties and payments which are deductible in computing business profits and are often called 'above the line' taxes.

Studies of the Total Tax Contribution of companies in the UK and Australia have highlighted the importance of other taxes borne such as employer social security payments, customs duty, local property taxes and industry-specific taxes. The profile of taxes borne varies by industry, as many of these taxes are industry specific.

In the UK a survey has shown that across all industries, corporate income tax payments are matched by an equal amount of other business taxes that have to be paid. The pie chart below illustrates this. It can clearly be seen that corporate income tax represents only 52% of the taxes borne. To put the figures into context, on average, total taxes borne represents 40% of profit before all these business taxes for these companies.

Total taxes borne



Source: PwC UK Total Tax Contribution surveys for The Hundred Group

The pie chart on the previous page covers the taxes which are a cost to the company—taxes which have an impact either on the profit and loss account or on a capital account. However, companies also have responsibility for collecting other taxes on behalf of Government and this can represent a significant compliance and administrative burden. Again the results vary significantly by industry, but our work shows that companies collect almost twice as much again in taxes collected when compared with taxes borne.

Taxes borne

Taxes collected



Source: PwC UK Total Tax Contribution survey for The Hundred Group

To put the figures into context, on average, an amount equivalent to 18% of turnover of these companies is paid to UK Government in both taxes borne and taxes collected.

While the charts shown above relate to a cross industry group of companies, the picture for chemical companies is also very interesting. Work in the UK has shown that the significance of corporate tax varies in the industry and for many companies, it is not corporate tax but Employers Social Security that is the largest tax. In addition, companies with a responsibility for collecting excise duty (e.g., fuel duty) can collect several times as much as the tax they bear. Environmental taxes (e.g., climate change levy) are also of growing significance for this industry.

For internal management, Total Tax Contribution information is important to ensure that investment decisions are taken on the basis of full information considering all business taxes borne and collected. Many other business taxes are significant in size, and if not adequately controlled they can represent a material risk.

Externally, increased transparency around the full amount of the Total Tax Contribution made by the chemical industry can help to meet the needs of a variety of stakeholders, such as investors, governments and consumers. These different stakeholders have different needs, for example, clarity on tax risk position (investors), attracting and retaining investment (governments) and understanding of the contribution made by companies. Total Tax Contribution is a relatively straightforward and easy to understand framework to communicate to stakeholders what a company contributes in taxes.

Total Tax offers the potential for a more constructive conversation facilitated by a standard method of measurement that can be consistently applied globally.

Appendix

Source of information

Our financial analysis was based on a number of ratios, which could be derived from publicly available information. The use of information that was publicly available meant that we could include a large sample size of 46 companies without the need to contact each company, giving us a good overview from which to draw our conclusions.

Trimmed average

Our conclusions are based on a statistical analysis of the ratios. In a tax benchmarking exercise of this nature, particular ratios may be distorted due to one off, nonrecurring items. Exceptional items, for example, often attract associated tax at rates far from the statutory rate.

It was necessary to exclude these extreme values, and this was done on a consistent basis by taking a trimmed average of a particular sample. The trimmed average is the average result of the data, set by excluding 15% of the data points from both the top and bottom of the data set. It is a robust estimate of the location of a sample, excluding outlying data points.

Quartiles

These record the ratio where 75% and 25% of the sample companies lie below that point respectively. By displaying results in this manner, it is possible to identify the range in which the results of the majority of companies fall.

The terms used in the charts to represent the upper (above the trimmed average) and lower (below the trimmed average) quartiles are Quartile 3 and Quartile 1.

List of companies

US companies

Air Products & Chemicals
Albemarle
Ashland
Chemtura
Clorox
Dow Chemical
DuPont
Eastman Chemical
ExxonMobil
Hexion
Honeywell
IFF
Lubrizol
Lyondell
Nalco Holding
NL Industries
PPG
Praxair
Rockwood Specialties
Rohm & Haas
Sigma-Aldrich
Tronox
Westlake Chemical

Canada

Methanex
Nova Chemicals

Germany

BASF
Bayer
Degussa
Lanxess
Linde Group
RAG Aktiengesellschaft

Switzerland

Ciba Specialty Chemicals
Syngenta

UK

ICI

Netherlands

Akzo Nobel
DSM
Univar

France

Air Liquide
Total

China

China Petroleum & Chemical
Shanghai Petrochemical

Japan

Dainippon Ink & Chemicals
Kuraray Chemicals
Mitsubishi Chemical
Mitsui Chemicals
Sumitomo Chemical

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