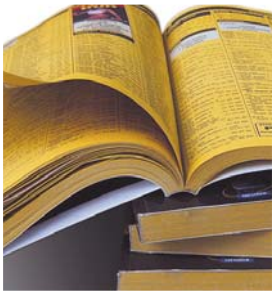

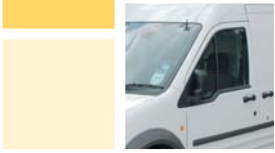

Purchases of Inputs
by the Drinks Industry

DRINKS INDUSTRY GROUP OF IRELAND

Purchases of Inputs by the Drinks Industry

A Report Commissioned by the Drinks Industry Group of Ireland

By Anthony Foley

Dublin City University Business School

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DRINKS INDUSTRY GROUP OF IRELAND

Beverage Council of Ireland • Cider Industry Council • Diageo Ireland • Drinks Manufacturers of Ireland • Irish Brewers Association
Irish Distillers Group plc • Irish Hotels Federation • Licensed Vintners Association • National Off Licence Association
Restaurants Association of Ireland • Vintners Federation of Ireland • Wine & Spirit Association of Ireland

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Executive Summary

The aim of this report is to identify the role of the drinks industry in purchasing inputs from other producers. The drinks industry includes drinks manufacturing, the on and off licence retail sectors and the wholesale distributors.

There are several ways of measuring the economic impact of an industry including turnover, value added, volume of production, productivity, level and type of employment and wages level. An additional measure is its impact on other sectors through the purchasing of inputs, its backward linkage. Regardless of performance on value added or productivity or employment the impact and role in providing markets for other producers is a significant economic issue.

DIGI has published assessments of various aspects of the direct economic benefit of the industry detailing the employment, output, earnings, exports and tax revenue which derives from the drinks industry. In addition it has identified the major contribution which the drinks industry makes to tourism through profile building, provision of public houses, visitor attractions and festival and sports sponsorship. While there is a broad recognition of the industrys role in certain inputs, barley in beer and spirits production, apples in cider production and milk in liquer production, there has not been a systematic analysis and identification of the overall materials and services purchases undertaken by the drinks industry. This report deals with that gap.

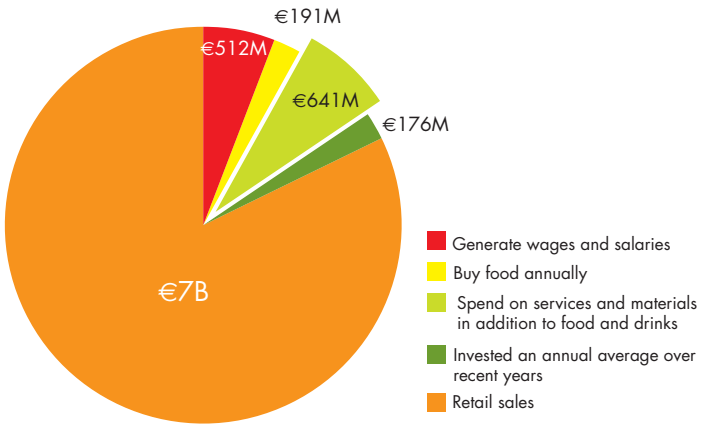
The methodology involves examination of the CSO comprehensive data sources, the CIP and the ASI and other CSO material, a survey of the purchasing pattern of public houses as illustrated by audited accounts and the provision of information by drinks companies. In some cases detailed information is not available and estimates have to be derived. The basis of any estimates is identified in the text.

The research indicates that a substantial purchasing role is played by the drinks industry. In addition to direct economic benefits of 75K jobs, over €1B in exports, €2B tax revenue in VAT and excise and almost €7B in personal expenditure (including VAT) the drinks industry is a very substantial purchaser of inputs.

Drinks manufacturing

- Pays €250M in wages and salaries and €300M in total labour costs including payroll taxes and pensions.
- Buys €375M in materials annually
- Buys €46M in industrial services
- Buys €393M in non industrial services such as advertising, postal, IT and telecommunications services
- Excluding goods bought for resale without processing has a total of €841M in purchases
- Has invested an average of €123M annually over the past few years and €91M in 2004
- Has an investment per person engaged of €16.5K compared to the manufacturing average of €11.0K
- Buys 261K tonnes of barley annually and about 60M gallons of milk
- Spends €105M measured at farmgate prices in purchases from agriculture
- Has a services purchase of €75.6K per person engaged compared with €21.2K in meat processing and €29.0K in the dairy industry

The retail /wholesale/on/off sectors



As identified by the above statistics the drinks industry, both manufacturing and retail, plays a very substantial role in the procurement of inputs and thereby generates large economic benefits in addition to its direct impact.

1. Introduction and Methodology

The purpose of this report is to identify the extent of inputs purchased by the drinks industry. There are several different measures of the economic contribution of an industry, its employments, its sales or gross output, its value added, its net output and its impact on other sectors through the purchase of inputs. The employments and output/sales characteristics of the drinks industry have been well documented by previous DIGI research. Other DIGI research has identified the contribution of the drinks industry to tourism. The input purchasing role of the industry has not been well documented and this report deals with that gap. The purchasing pattern of an industry is its backward linkage with other sectors.

The significant role of the industry in purchasing inputs is readily apparent given the nature of its main products. Cider is a major user of apples. The cream liquer producers use large quantities of milk. Beer and whiskey producers are major users of barley. It is not often realised that the backbone of alcohol production is agricultural produce. Hence, the drinks industry is an important market for agricultural produce. In addition, in line with other sectors the industry sources a large variety and quantity of industrial and services inputs, including equipment maintenance, advertising, security, banking services, packaging, transport and investment goods such as machinery and construction.

The report is primarily based on an analysis of the comprehensive CSO datasets relating to industry and services. This is supplemented by data supplied directly by the drinks enterprises, both manufacturing and retail. Because the data is from the CSO Census of Industrial Production and Annual Services Inquiry, it is very reliable and also allows longitudinal analysis on consistent data definitions. It also facilitates comparisons with other industries and with manufacturing industry as a whole. The CSO agricultural data on supply balance can be used to examine the role of the drinks industry as an outlet for certain agricultural products.

2. Data Sources

There are four main comprehensive sources of inputs data; the Census of Industrial Production(CIP), which includes coverage of both individual production units and individual enterprises, the Annual Services Inquiry(ASI), which provides data on bar purchases, the CSO data on agricultural market balances and the Irish Economy Expenditure or Direct Economic Impact data published by Forfás. Certain information was provided directly by the industry. In addition a survey of publicans was undertaken to determine information such as the pattern of inputs and the role of food purchases in this sector.

The Forfas source presents data only for an aggregation of food, drink and tobacco. Confidentiality requirements and small sample size prevent the availability of Forfás inputs data for the drinks industry on its own. Up to the 2003 edition the CIP enterprise survey provided data for the drinks industry (NACE, 159) and for two groupings within the industry (1591, 1596, 1597) beer, malt and spirits and (1594, 1598); cider, minerals and soft drinks). Previous CIP's identified three groups; distilled alcoholic beverages (1591), cider, fruit wines, mineral waters, and soft drinks (1594, 1598) and beer and malt (1596, 1597). A broad range of data is available for the two groups but some data such as exports is available only at larger levels of aggregation such as food, drink and tobacco. Because of confidentiality requirements the CSO will not make available any data below the level of the two groupings. Unfortunately, the recently published 2004 edition of the CIP has changed the drinks classification in the enterprises part of the census. In the 2004 CIP enterprises section the total drinks industry is combined with tobacco. Within drinks and tobacco two groups are identified, distilling, beer and malt as one and cider, soft drinks and tobacco as the other.

The coverage and range of inputs data in the official sources is much greater for manufacturing than for services. The manufacturing enterprise level data cover materials and fuel, industrial services and non-industrial services. Data is also provided for capital assets purchasing and goods intended for resale without additional processing. The services inputs data is limited and because of this the survey of publicans was undertaken

In previous CIP's, local units data was covered under four groupings within the industry; distilled beverages (1591), cider, mineral waters and soft drinks (1594, 1598), beer (1596) and malt (1594). Currently and in recent years, only two groupings are distinguished; (1591, 1596, 1597) & (1594, 1598) – the same as the 2003 CIP enterprise survey. This dataset identifies inputs such as industrial materials, industrial services, fuel and power. Non-industrial services are not separately identified in this dataset. Capital assets data is also available.

The primary objective of the report is to identify input purchasing of the overall drinks industry, not its individual components. However, some reference is made to the two groups within the industry for which comprehensive data is available. The local units part of the 2004 CIP retains the classification of the 2003 CIP for the drinks industry in that tobacco is not combined with drinks. Because of the change in classifications between 2003 and 2004 it is necessary in some aspects of the analysis to focus on the 2003 data rather than the later 2004 material.

The CIP and the ASI do not provide a breakdown of inputs between domestic sourced and foreign sourced. Clearly the details of domestic sourced inputs would be useful in identifying economic impact. The Forfás data does provide this breakdown. Indeed, this is the main function of the Forfás data collection exercise. However, as already noted, Forfás domestic inputs data is available only at the Food, Drink and Tobacco level, not at the drinks industry level.

As already noted the data on the retail/wholesale side of the industry are not as comprehensive as for manufacturing. The ASI includes details of purchases of goods for direct resale and purchases of other goods and services. The other goods and services category is not classified into types of expenditure. Our own survey of public house accounts provides some detail of the other types of purchases and expenditures. The ASI contains information on capital acquisitions and capital disposals. Information is provided for bars, hotels and restaurants. The restaurant and hotels sectors would also include bar type activities. There are certain differences between the market size estimates of the ASI and other sources such as the CSO national accounts data on personal expenditure. These are discussed in

2. Data Sources

chapter 5. The issue of double counting should be taken into account in assessing the retail purchases activity because the bulk of the expenditure on inputs by public houses is on alcohol products which are the output of the drinks manufacturing industry. Pubs also use imported drinks products.

The local units data of the CIP refer to the individual production units or establishments of the enterprise. An enterprise could have several production units. The enterprise data of the CIP refer to individual enterprises, i.e. all the enterprises production units are treated as one enterprise. As already noted, the local unit and enterprise data on inputs are slightly different. Services which are not industrial are identified in the enterprise data but not in the local units data. The turnover and output data are defined in the CIP to include excise. This has to be taken into account when computing ratios, e.g. inputs as a share of total output or value added ratios.

The main input definitions are:

Fuel and Power: Electricity, Gas, Oil

Materials: Materials for further processing and ancillary materials such as packaging and office supplies

Industrial Services: Work done on commission or contract, repairs and maintenance and research and development

Non-Industrial Services: Includes hire of plant, rent of premises, insurance premiums, audit, legal, postal, advertising, transport and other charges. This includes bank charges but excludes interest payments.

A substantial part of drinks industry output and purchases are goods which are purchased for resale without further processing. For example, a producer may import beverages to supplement the product portfolio and which is sold on without any further processing.

The difference between units and enterprises is shown below:

Table 2.1
Enterprise and Local Units in the Drinks Industry, 2003

Group	Beer, Distilling, Malt	Cider & Mineral Waters, Soft Drinks	Total Drinks Industry
Enterprises	17	16	33
Local Units	32	22	54

Source: CIP

The Forfás Irish Economy Expenditure data is an important source of information on the domestic linkages of an industry. Unfortunately the data is only available at the level of the food, drink and tobacco sector. Confidentiality requirements and also survey accuracy requirements means that information at the drinks industry level is not made available by Forfás. This source shows that the overall food and drink sector has a high level of domestic sourcing.

In some cases it has been necessary to make assumptions on certain purchase patterns because of data limitations. A conservative approach to this has been taken to ensure that the inputs purchases are not overstated.

3. Different Measures of Economic Contribution of an Industry and Background to the Drinks Market

There are several different measures of the economic role or contribution of an industry. One could refer to the direct employment of an industry but this would not take into account the economic impact of outsourcing. On the output side, one could refer to the total production value (or sales adjusted for stock changes). As the CIP notes (page)… "Gross output is not a very satisfactory measure of the relative economic importance or comparative expansion of an industrial sector since only a proportion of its value is actually created within the sector". There would also be a degree of duplication as one industry, such as baking, uses the output of another industry, such as flour. Net output which identifies the value added to industrial input is regarded as a more appropriate measure of significance than gross output

The same broad issue applies to the concepts of production and gross value added used in the Enterprises part of the CIP. Production value is self-explanatory. Subtracting materials, industrial services and non-industrial services results in the gross value added concept which is regarded as a more accurate measure of economic role. It is the gross value added concept which is aggregated to generate GDP. However, in some case, the gross value added concept can understate the economic role because of the linkage with other sectors.

The most recent CIP refers to 2004. The authors estimates of the 2005 position based on drinks industry performance in 2005 as defined by other indicators are presented.

An industry could source from other producers a high proportion of its final production value. In this case, even if its value added is low the sourcing of inputs could result in it having a strong impact on the economy. If there is very little processing of the purchased inputs this would mean that on the value added criterion, there would be a relatively small economic contribution. However the enterprises supplying the low value added industry might depend on that industry for survival. Hence, its economic role is higher because of the linkage effect (suppliers output linked to the low valued added industry) than indicated by the low value added level. The purchase activity of an industry is therefore an important measure of its economic contribution. Quite apart from its value added level and ratio the drinks industry provides an outlet for the products and services of farmers, fruit growers, advertising agencies, bottle manufactures, packaging producers, transport companies, information technology firms and others.

It should also be recognised that the output of the drinks industry is dependant on consumers incomes part of which derives from the activities in the supplying industries. It must also be acknowledged that in a situation of vibrant economic activity the decline in or cessation of the purchases by a particular industry may be absorbed by other industries instead of leading to unemployment. Consequently, the failure of the drinks industry to buy certain inputs does not necessarily mean that they would not be absorbed elsewhere in full or in part.

Some purchases by an industry might be regarded as an economic "bad" instead of a "good". Industry purchases electricity which adds to demand for the locally produced product .The purchase of oil generates a market for the domestic importers and distributors of the product. However, energy usage generates CO2 emissions and contributes to the overall problem of global warming and pollution. It could be argued that the higher the energy purchase, the lower is the economic benefit of the industry despite the direct impact on energy production and employment.

This report identifies the input purchasing pattern and trend of the drinks industry. It does not distinguish between "desirable" and "undesirable" input usage. As is the case in national accounts classifications and calculation, the different types of output as treated as an economic "good".

3. Different Measures of Economic Contribution of an Industry and Background of the Drinks Market

A profile of the drinks market is presented to provide background in which to examine the inputs and background linkages. As noted above the latest CIP is 2004. In 2003 there was a weak drinks industry performance. Following the substantial spirits excise increase in the December 2002 budget total alcohol consumption dropped by 4.5% in 2003. The implications for input purchases were greater because manufacturing inputs are based on the three domestically produced products of beer, spirits and cider. There are, of course, distribution, transport, advertising and other inputs related to wine. Performance in this "domestic" category was worse than total consumption with a decline of 6.7%. The CIP classification includes beer and spirits as a separate category. Consumption in these two products declined by 7.6%. Declines of this magnitude have an effect on the level of purchases. There is not an immediate complete correlation between consumption and production because of the nature of some alcohol production processes. Spirits production involves a long time lag.

Table 3.1
Alcohol Consumption 2002/2003 MLPA

	Total	Domestically Produced	Spirits and Beer
2002	44.01	37.26	33.61
2003	42.05	34.76	31.06
% change	-4.5	-6.7	-7.6

Source Revenue Commissioners

However, direct production is only one part of the manufacturing operation which, depending on which business model is used could include transport, advertising and other services inputs which are directly related to sales not production. Inputs of these would be negatively affected by the consumption decline even if production did not decline.

Consumption rose in 2004 (2.7%) and 2005 (1.6%). The 2004 and 2005 performances for total, domestically produced products and beer and spirits are shown below. While total drinks consumption and domestically produced drinks increased in each year the 2005 levels were still less than 2002.

Table 3.2
Alcohol Consumption 2003/2005

	Total		Domestically Produced		Spirits and Beer	
		% change		% change		% change
2003	42.05	-4.5	34.76	-6.7	31.06	-7.6
2004	43.18	2.7	34.85	0.3	31.07	0
2005	43.88	1.6	35.24	1.1	31.29	0.7

Source Revenue Commissioners

The performance of domestically produced products (beer, spirits and cider) was behind that of total consumption. The 2004 growth was 0.3% and growth in 2005 was 1.1%. The category of spirits and beer showed no growth in 2004 and 0.7% in 2005. Spirits and beer consumption in 2005 is still well below the 2002 level and is only 0.7% above the 2003 level. The domestically produced category in 2005 was well below the 2002 level and was only 1.4% above the low 2003 level.

The scale of the retail market is outlined.

Table 3.3
Drinks Retail Market 2002-2005 (€B)

	Total Alcohol	On Licence	Off Licence	Non-Alcohol Beverages	Total Drinks
2002	5.981	4.226	1.755	0.519	6.500
2003	6.021	4.274	1.747	0.514	6.535
2004	6.261	4.401	1.860	0.496	6.756
2005	6.404	4.532	1.872	0.525	6.929

Source National Accounts CSO

The retail market for alcohol and soft drinks is almost €7B (€6.929B). This is comprised of €6.404B in alcohol and €0.525B in soft drinks. The alcohol sales are divided between on-licence sales of €4.532B and off-licence sales of €1.872B. All of these figures include VAT and excise. The tax receipts make a valuable contribution to the exchequer but including them gives an overstated role of the retail sector as a source of purchasing from the rest of the economy. It should be noted however that expenditure and output data and individual enterprise accounts which exclude VAT all include excise. Production and ex VAT turnover figures for the drinks manufacturing sector include excise. The net of VAT accounts of public houses include excise in the turnover and purchase of materials data. The ASI ex VAT turnover and purchases data include excise. However, from a purchasing perspective the excise element does not represent sourcing of inputs from other suppliers.

Because of the services nature of the on-licence sector compared to the off licence sector there is a higher level of inputs purchasing. The excise and VAT levels in recent years are shown below.

Table 3.4
VAT and Excise Receipts 2002-2005 (€M)

	Excise	VAT	TOTAL
2002	958.0	897.0	1855.0
2003	988.6	914.0	1902.6
2004	1022.1	953.0	1975.1
2005	1038.3	984.0	2012.3

Source Revenue Commissioners

Of the €6.404B alcohol expenditure in 2005 over €2B was VAT and excise. The volume relating to purchases of materials (alcohol products), purchase of services (advertising, phones, post, audits, repairs, cleaning) and wages/salaries and profits is €4.4B. This is still a very substantial market. When tax excluded soft drinks are added to the alcohol the total 2005 expenditure on products, services and incomes by the drinks industry is €4.8B in 2005. The fund of €4.8B pays the wages and salaries of retail, wholesale, manufacturing, equipment and services supply staff through the value chain from barley production to consumption of a drink.

4. Inputs Puchased By Manufacturing

4.1 Drinks Manufacturing Compared to Total Manufacturing

As background to the purchasing pattern of the drinks industry the role of drinks manufacturing relative to the total manufacturing is identified. The data are from the early estimates from the 2004 CIP as the finalised 2004 CIP does not separately identify value added for the drinks industry. Tobacco is included in the finalised CIP. The differences are marginal between the early estimates and the final estimates.

Table 4.1.1:
Drinks Manufacturing Compared to Total Manufacturing

	Employment (Persons)	Turnover (€M)	Value Added	Wages and Salaries (€M)
Drinks 2003	5223	3484	2172	254
Drinks 2004	`4925	3394	2125	250
Total 2003	229189	104912	40161	6967
Total 2004	220830	109697	41269	7038
Drinks as a % of Total 2003	2.3	3.3	5.4	3.6
Drinks as a % of Total 2004	2.2	3.1	5.1	3.6

Source CIP Early Estimates

The drinks industry accounts for 2.2% of manufacturing employment and 3.6% of wages and salaries indicating that wage levels are above average in drinks manufacturing. It provides 3.1% of total turnover and 5.1% of value added. However, the value added and production figures as published by the CSO include excise.

If the indirect tax element is removed from both manufacturing and drinks value added drops to €38085.9M the drinks share drops to 4.0% of value added (drinks value added drops to €1507.2M). However, the value added share is still substantially above the employment share indicating high value added per person in the industry.

Labour costs can be defined as wages and salaries costs or labour costs including pensions and PRSI. The CIP provides both sets of data but the early estimates for 2004 provides the wages and salaries only. Wages and salaries are an important source of economic benefit and the recent trend in the drinks industry total is outlined in the table below.

Table 4.1.2
Wages and Salaries(€M)

	2000	2001	2002	2003
Wages & Salaries	227.0	245.6	253.8	250.0

Source CIP

The wages and salaries total has increased between 2000 and 2003. However, most of the increase was in 2001. Since 2001 the level has remained fairly constant. When other labour costs are included the 2003 labour cost total is €303M in 2003 and probably about €300M in 2004.

4.2 Trends in Drink Manufacturing

4.2.1
Trends in the Role of Drinks Manufacturing

	1994		2000		2004	
	Employment	GVA	Employment	GVA	Employment	GVA
Drinks	5193	951.7	6133	1790.9	4925	2125.0
Total	205421	10583.6	255644	35173.0	220830	41269.0
Drinks share%	2.5	9.0	2.4	5.1	2.2	5.1

Source CIP

Drinks employment grew substantially up to 2000 and then declined but the share has moved only slightly from 2.5% to 2.2%. The share of value added has declined greatly up to 2000 from 9% to 5.1% but since 2000 it has remained constant.

4.3. Purchasing Pattern of Drinks Manufacturing

The purchasing pattern of the drinks manufacturing industry is shown below (Table 4.3.1). It is necessary to clarify some aspects of the data. Based on establishments or local units total fuel and materials purchasing in 2003 was €521.7M. According to the enterprise based data the total was €473.9M. Apart from the different reporting units there is the possibility of double counting in that one unit might source from another unit within the same enterprise. Because of this we have used the 2003 enterprise survey materials and fuel total of €473.9M as the base and the local units fuel and power data to derive the materials only purchases. A fuel/energy total is provided only in the "units" survey. It is less likely that fuel and power would be sold within an enterprise. On this basis materials purchases in 2003 by drinks enterprises were €378M. Because of the 2004 classification change it is not possible to repeat the same exercise for 2004. Alternative estimates using the 2004 data are presented in section 4.8.

Table 4.3.1
Purchases by Drinks Manufacturing Industry 2003

	€M	% Share of Materials & Services Purchase
Materials for Processing	378.0	41.3
Fuel and Power	95.9	10.5
Industrial Services	46.7	5.1
Non-Industrial Services	394.9	43.1
Materials & Services Purchases	915.5	100.0
Goods for resale without processing	418.0	
Total Purchases	1333.5	

Source Derived from CIP

A substantial part of total purchases is goods for resale without further processing. As noted earlier these would be mainly finished products to increase the product portfolio. As such they would not be purchases as intended for purposes of this report. Excluding this element, the value of goods, services and materials used in the production process was €915.5M. Materials (including barley, milk, sugar, packaging, bottles) accounted for €378.0M or 41.3% of the total. Fuel and power was 10.5% or €95.9M. Industrial services was 5.1% or €46.7M. Non-industrial services (rent, advertising, postal, audit, transport) accounted for €349.9M or 43.1% of total materials and services inputs.

The fuel and power total of almost €100M euro in 2003 seems surprisingly high compared to other years. In the previous three years it ranged between €23M and €28M. In the recently published 2004 CIP the fuel and power total was €26.7M. Discussions with the industry do not suggest that there were particular circumstances in 2003 to indicate such a high level of energy purchases. As the 2004 level has reverted to the pre 2003 levels it seems reasonable to doubt the 2003 CIP published figure for fuel and power purchases by the drinks industry. Based on other years experience the possible energy expenditure is a maximum of €30M instead of the published official figure of €95.9M. This would reduce total materials and services purchases to €849.6M and total purchases to €1267.6M.. The per cent shares of materials and services purchases, on the lower fuel and power figure, are materials, 44.5%, fuel and power 3.5%, industrial services 5.5% and non-industrial services 46.5%.

Table 4.3.2 presents the inputs purchases in terms of level per person employed. The official fuel and energy figure is used.

Table 4.3.2
Input Purchases Per Person Employed: Drinks 2003

	€K
Materials for Processing	72.4
Fuel and Power	18.4
Industrial Services	8.9
Non-Industrial Services	75.6
Materials and Services Purchases	175.3

Source Derived from CIP

The drinks industry was associated with €175.3K of materials and services purchases per person employed. In non-Industrial services inputs the level was €75.6K, and in materials the level was €72.4K.

4. Inputs Puchased By Manufacturing

4.4 Drinks Industry Compared to Manufacturing

The total and per capita levels of inputs for total manufacturing are compared with the drinks industry in this section. The same methodology and data definition as in section 4.3 are used.

Table 4.4.1
Purchases per Person Employed
Manufacturing and Drinks

	Manufacturing		Drinks	
	Total €M	Per Person Employed €K	Total €M	Per Person Employed €K
Materials for Processing	32476.7	141.7	378.0	72.4
Fuel and Power	905.4	4.0	95.9(30.0)	18.4(5.8)
Industrial Services	4219.2	18.4	46.7	8.9
Non Industrial Services	21881.9	95.4	394.9	75.6
Materials & Services Purchases	59483.2	259.4	915.5(849.6)	175.3(162.7)

Source Derived from CIP

The bracketed figures refer to the levels derived using the lower fuel and energy figures. The drinks industry per capita purchasing on materials, industrial services and non industrial services is below manufacturing as a whole. However, this services comparison is distorted by the services inputs of the high technology inward FDI sectors such as chemicals/pharmaceuticals and electronics and certain other industries where royalty payments, management charges and licence fees constitute a large element of the services inputs as opposed to services such as advertising, cleaning and information technology. As shown below (Table 4.4.2) there are very high levels of services inputs in chemicals and electronics. The same issue arises across all sectors but is not as pronounced as in the high technology sectors. The food sector and paper and printing also have high royalty type services levels. In food 74% of the service input is in a sector providing only 14% of food employment (concentrates). In paper and printing industry 223 (computer media) accounts for €4.1B of the sectors €4.4B service inputs.

Table 4.4.2
Services Purchases-Various Industries

		€M	Persons	Services per person employed
151-158	Food	3240.8	44159	73.4
17-18	Textiles	16.5	6737	2.5
19	Leather	7.1	522	13.6
20	Wood	132.6	6738	19.7
21-22	Paper & Print	4424.8	22298	198.4
24	Chemicals	7994.8	23641	338.3
25	Plastics	159.9	9723	16.4
26	Non metallic minerals	277.8	10631	26.1
27-28	Metal	175.5	14930	11.8
29	Machinery	172.3	12100	14.2
30-33	Electronics	4543.3	53132	85.5
34-35	Transport Equipment	75.8	7927	9.6
159	Drink	394.9	5223	75.6
1511	Meat	165.2	7810	21.2
155	Dairy	281.3	9694	29.0

Source Derived from CIP

The services procurement includes the substantial sums that the industry spends on advertising. The overall drinks industry spends about €50M on advertising but all of this is not sourced from the manufacturing sector. Non industrial services per person employed is almost three times higher in drinks manufacturing than in meat and dairy. It is a little below electronics and is very much below paper and printing and chemicals.

The drinks materials purchases are compared to manufacturing in table 4.4.3.

Table 4.4.3
Materials Purchases Drink and Manufacturing

	Drinks		Manufacturing	
	Total M	Per Person K	Total M	Per Person K
	473.9	90.7	33382.1	145.7
Fuel/Energy	96.9	18.6	905.4	4.0
Materials	377.0	72.2	32476.7	141.7

Source CIP

The drinks level is below that of manufacturing as a whole. Selected industries are shown below for materials purchases per person engaged. The meat and dairy industries are generally acknowledged to be substantial users of raw materials and this is borne out in the data.

Table 4.4.4
Materials and Fuel Purchases per Person-Various Industries

		Materials and Fuel Per Person
151-158	Food	167.0
17-18		41.9
19	Leather	58.6
20	Wood	80.5
21-22	Paper & printing	71.5
24	Chemicals	171.5
25	Plastics	59.9
26	Non metallic	62.0
27-28	Metal	62.1
29	Machinery	74.5
30-33	Electronics	264.7
34-35	Transport Equipment	60.2
159	Drinks	90.7
1511	Meat	250.1
155	Dairy	286.4

Source Derived from CIP

Materials and fuel purchases per person in drinks manufacturing was €90.7K in 2003. This level was substantially behind food, chemicals, and electronics. Within food, the gap between meat and dairy (€250.1K and €286.4K) and drinks (€90.7K) was wider than with food as a group. While behind food, chemicals and electronics, drinks, materials and fuel per person engaged was higher than in all the other industries listed in the table.

4.5 Purchasing Patterns over time

The changes in the drinks purchasing pattern between 2000 and 2003 are shown below.

Table 4.5.1
Purchasing Pattern Trends-Drinks Industry (€M)

	2000	2001	2002	2003	Cumulative Total
Materials & Fuel	540.5	549.1	527.5	473.9	2091
Fuel	23.3	28.3	26.9	96.9	175.4
Materials	517.2	520.8	500.6	378.0	1915.6
Industrial Services	43.9	57.7	50.6	46.7	198.0
Non-Industrial Services	384.0	316.3	366.9	394.9	1462.1
Total	968.4	923.1	945.0	915.5	3752.0

Derived from CIP

There are some notable features of recorded purchases over the past few years. Fuel and power purchases dramatically increased in 2003 compared with the previous three years. This has been discussed above . The 2003 figure appears to be an overestimate. The value of materials purchases declined greatly in 2003. As already noted 2003 was a poor year for the drinks industry especially the spirits industry. However, the 2004 CIP local units survey shows that materials for processing remained at the 2003 level in 2004. The units totals are different to the enterprises totals. According to the units data,materials purchases by the drinks industry declined from €509M in 2002 to €426M in

4. Inputs Puchased By Manufacturing

2004 and remained at €422M in 2004. Industrial services has remained between €44M and €58M. Non-industrial services fluctuated in the period from €316M to €395M.

Over the same period the manufacturing position was as shown below. Its overall pattern has similarities with the drinks industry. Fuel expenditure went up in 2003 but by less than the drinks industry. Materials expenditure declined over the period but by less than in drinks. Industrial services fluctuated over the period from €3.2B to €4.2B. Non industrial services fluctuated between €22.5B and €21.4B and increased slightly over the period as did drinks purchases of non-industrial services.

Table 4.5.2
Purchasing Pattern Trends-Manufacturing

	2000	2001	2002	2003
Materials & Fuel	36025.3	37072.3	34614.9	33382.1
Fuel	734.6	747.6	774.1	905.4
Materials	35290.7	36324.8	33840.8	32476.7
Industrial Services	3205.3	4120.8	4678.3	4219.2
Non-Industrial Services	21359.7	22335.2	22480.1	21881.9

Source CIP

4.6 Capital Assets Purchases

The drinks industry provides a market for investment goods or capital assets. The investment purchases can be divided between plant, machinery, equipment and vehicles, buildings and other construction work and other (including land). Because of the 2004 classification change the focus in this section is 2003. References are made to 2004.

In 2003 the drinks industry spent €86.4M on capital assets. Plant, machinery and vehicles made up 86.7% of this and building and construction was 7.8%. The capital expenditure was €16.5K per person. The comparable total manufacturing figure was €11.0K per person employed.

Table 4.6.1
Capital Asset Expenditure Drinks and Total Manufacturing 2003

	Drinks	Manufacturing
Capital Assets Exp. €M	86.4	2510.0
Plant & Equipment %	86.7	67.8
Building/Construction %	7.8	25.1
Other %	5.4	7.1
Per Person Capital Exp. €K	16.5	11.0

Source Derived from CIP

The drinks investment pattern is more plant/equipment intensive than total manufacturing. This is to be expected because the drinks industry is a well established industry with extensive buildings and land assets whereas part of total manufacturing investment is by new projects with a requirement for new buildings.

Bearing in mind that the drinks industry is a long established industry the level of investment is impressive, being 50% above total manufacturing on the investment per person employed indicator.

The other main indigenous generated industries are meat and dairy. Investment in meat was €28.8M and €104.8M in dairy. The investment per person levels were €3.7K and €10.8 respectively compared to the €16.5K in the drinks industry.

The enterprises survey recorded investment of €86.4M in 2003. The comparable units survey data was €77.5M. In 2004 the units survey data for investment had risen to €82.4M. This would suggest that 2004 drinks investment has increased from 2003. Based on trends within the two segments of the industry the likely investment level in 2004 was €91M.

Investment expenditure over the past four years since 2000 is shown below. Total drinks industry investment totalled €491B, almost half a billion between 2000 and 2003.

Table 4.6.2
Capital Expenditure Trends-Drinks Industry (€M)

	2000	2001	2002	2003	Total 00/03
Plant Machinery	110.2	100.2	100.4	74.9	385.7
Buildings & Construction	29.3	19.6	21.0	6.8	76.7
Other	9.9	9.9	4.5	4.7	29.0
Total Drinks	149.3	129.7	126.0	86.4	491.4
Total Manufacturing	3495.2	4052.6	3910.8	2510.0	13968.6

Source CIP

This was comprised of almost €400M in plant and machinery and €77M in construction & buildings. Investment dropped in 2003 compared with 2002. This was also the situation in total manufacturing. Over the four years drinks industry investment was 3.5% of manufacturing investment. The individual year shares were 4.3% in 2000, 3.2% in 2001, 3.2% in 2002 and 3.4% in 2003.

Data are available for two groups within the drinks industry, brewing and distillery and cider, soft drinks and mineral water. The investment expenditure is primarily in the brewing/distillery segment. However the 2003 investment situation is more heavily based on brewing and distilling than previous years.

Table 4.6.3
Capital Expenditure within the Drinks Industry 2003

	Persons Engaged Persons	Investment €M	Investment per person €K
Brewing & Distilling	3380	74.1	21.9
Cider. Soft Drinks & Water	1853	12.3	6.7

Source derived from CIP

Investment per person engaged in 2003 was €2.9K in brewing and distillery and €6.7K in the other group. The cumulative 2000-2003 totals are €347.2M brewing and distilling and €145.8M in cider soft drinks and water. The 2003 cider, water soft drinks investment of €12.3M was substantially below the levels of €40M to €50M in the previous three years. The 2004 enterprises brewing and distilling investment was €75.4M. On the units measure the rest of the drinks industry 2004 investment was €16.8M compared to €12.3M in 2003. This would suggest an overall drinks investment of €91M in 2004.

Table 4.6.4
Capital Expenditure 2000-2003 (€M)

	2000	2001	2002	2003	Total 2000-2003
Brewing & distillery	107.9	90.0	75.2	74.1	347.2
Cider, soft drinks & water	41.4	41.4	50.7	12.3	145.8

Source CIP

4.7 Purchases from Agriculture

The drinks industry consumes large quantities of barley, milk, sugar and fruit. A high level of detail is available on the barley purchases. It must be noted that the agricultural inputs are already included in the materials inputs referred to in previous sections.

Table 4.7.1 Drinks Industry and Barley

Barley	Total Usable Production	Used by Brewing & Distillery	% of Total
04/05	1327	261	19.7
03/04	1198	216	18.0
02/03	963	247	25.6

The drinks industry is a major user of the barley crop. In 2004/05 it absorbed 261K tonnes or 19.7% of the total usable production. The % shares in the previous two years were 18.0% and 25.6%.

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The industry uses about 60M gallons or 272M litres of milk annually in the production of the various liquers. Apple production for cider accounts for about one third of total local apple production. The 20% of barley is about 11% of total cereals production. On the basis of farmgate prices, which is the relevant indicator for the farming sector and allowing an element of premium pricing for the drinks inputs the total purchasing from agriculture at farmgate prices is about €105M annually. The values would be higher if the inputs were prices at ex processor levels. Sugar is not included as it will no longer be produced domestically. This would increase the level beyond €110K.

4.8 Purchases by Manufacturing 2004

The 2004 CIP combines tobacco with drink in its enterprises survey. The units survey still provides a drinks industry total. As already noted the units data for inputs is different from the enterprises data. This report has concentrated on the enterprises data as the more appropriate for the report's objectives and because there is more detailed input purchases data under this heading. In 2003 the "enterprises" materials purchases were €378M compared to €426M in the "units" data. In 2002 the enterprises level was €501M compared to €509M in the units data. Between 2003 and 2004 the units materials purchases decreased slightly from €426M to €422M. Fuel and power dropped greatly from €96M to €27M. Industrial services dropped from €38M to €36M.

The enterprises data still includes the beer, spirits and malt classification. In this group fuel and power decreased from €92M to €22M between 2003 and 2004.

Table 4.8.1
Input Purchases Brewing, Spirits, Malting (€M)
Source CIP

	Fuel & Power	Materials	Non Industrial Services	Industrial Services	Total
2003	92.0	233.6	350.2	40.5	716.3
2004	22.3	295.2	347.4	37.8	702.7

The services levels in this category remained broadly stable between 2003 and 2004 with a decline of 0.8%. Fuel and power declined greatly and materials increased. The increase of 26% in materials is surprising. The change is also not repeated in the units data for 2004. In the units data for this group materials for processing were €279.9M in 2004 and €283.1M in 2003. This is substantially different to the enterprises 2004 change. The enterprise data indicates an increase in materials for processing in 2004. This does not seem reliable in light of the units data and overall performance in the industry. Overall the 2004 position is broadly similar to 2003 based on the units materials and enterprise services data. Based on the above the assessment for 2004 is

	€M	
Fuel and Power	27	*(from units data CIP)*
Materials	375	*(units 03/04 change applied to 03 enterprise level)*
Industrial Services	46	*(slight decline assumed)*
Non-Industrial Services	393	*(assumed decline of 0.5% from 2003)*

4.9 Updating the Estimates to 2005

The data presented in this report mainly uses 2003 and 2004 sources. There is more extensive 2005 information on the retail side as shown in section 5. The question arises of presenting estimates for 2005 taking account of possible changes over the past year. The available evidence suggests that there would not be substantial changes in the levels of procurement identified but there would be some increases. As already shown the 2004 drinks manufacturing wages and salaries is less than the 2003 level. The 2004 CIP units data show that there were slight decreases in inputs purchases in 2004 compared with 2003. Manufacturing drinks volume of production declined in 2004 and turnover was unchanged. In 2005 the volume of production increased by 11%. Turnover increased by 5%. The consumption volume of alcohol products which are produced in the Irish economy increased only slightly since 2003. It is likely that services have increased between 2004 and 2005 and also that materials inputs have also increased in 2005.

The latest production data show that the volume of drinks production declined in 2004 but increased significantly in 2005. The 2005 level was 11% above the 2004 level. Turnover in 2005 was 5% above the 2004 level. This is based on the CSO monthly volume and turnover data. Employment has continued to decline in the past two years and labour costs per head have increased. These two would partly cancel each other out.

On the basis of the above discussion it would seem reasonable to expect the materials inputs and the services inputs to be higher by about 5% in 2005 than in 2004 but this will not change the basic structure and level of the input purchases.

5. Inputs Purchased By The Retail And Wholesale Sectors

5.1 Introduction

The retail sector of the drinks industry is a very substantial level of economic activity. There are over ten thousand bars and over 1,000 off licences generating alcohol sales of €6.4B and soft drinks sales of €0.5B (inclusive of VAT and excise) in 2005 according to CSO data. Excluding Vat and excise the level of expenditure is €4.8B. The Annual Services Inquiry contains data for wages and salaries, value of total purchases, (divided between purchases for direct resale and other purchases) up to the 2001 ASI. Since then the disaggregation of purchases has not been provided. In addition capital investment expenditures are available.

The main item of purchases by public houses is beverages followed by food. These two items broadly constitute the purchase of goods for resale. The bar beverages purchases are already included in the output of the drinks manufacturing sector. In addition to drink products produced in Ireland the retail sector uses imported products. These are sourced both from manufacturers (this relates to goods bought for resale without processing) and from the other distribution channels.

The available statistics sources do not contain sufficiently detailed data to identify drinks, food and other purchases. Authors estimates on these are presented below.

A survey of public house accounts was undertaken to identify representative ratios of purchase to sales to obtain input purchase levels. These are intended to be broadly indicative only because there are substantial variations across the pub population in food to drink ratios, gross margin ratios and expense to sales ratios.

The industry has generally regarded the desirable gross margin to be 50%. Our survey identified gross margins ranging from 62% to 44% with an average of 51. Allowing for possible bias in the sample towards the larger public houses it seems reasonable to use 50%. The ASI data also allows the calculation of gross margins. These are shown below in section 5.3.

A survey of publican accounts was undertaken to identify average levels of expenditure on the non food, non drink purchases of inputs. Excluding cost of sales, wages and salaries (including pensions and PRSI) and certain expenses such as depreciation and loan interest if any, one is left with other expenses or other purchases of inputs. These other inputs include rates, insurance, light and heat, cleaning, repairs, maintenance, advertising, phones, leasing, licences, glasses, audit.

5.2 Capital Expenditure

Investment or capital expenditure by bars was €258.3M in 2003.

Table 5.2.1
Capital Expenditure (Capital Acquisitions) by bars

	2000	2001	2002	2003	Cumulative 2000-2003
€M	92.7	178.9	173.4	258.3	703.3

This is a very high level of investment. This includes both refurbishment/construction and acquisition of premises. It is likely that a substantial part of the investment is internal change of ownership within the public house sector. However, this would be picked up by disposal of assets which in 2003 was €58.1M. The net increase in assets was €200M in 2003 which is a substantial level of net investment.

As shown below the €258M investment level is high relative to other sectors.

Table 5.2.2
Capital Expenditure in Selected Retail Sectors (€M)

Retail non-specialised Stores	686.5
Food Beverages, Tobacco, Specialised Stores	66.1
Pharmaceutical retail	36.2
Other retail	315.3
Restaurants	128.4
Posts & Telecommunications	363.9
Hotels	249.6
Software consultancy & Supply	79.3
Bars	258.3

The largest investment level is non-specialised retail stores at €686.5M. Other retail and posts and telecommunications are €315M and €364M. Bars investment is 71 % of the posts and telecommunications level and exceeds the investment level in hotels, software consultancy and supply and restaurants. Part of the restaurant and hotels investment would have been on the bar-alcohol elements of the business. Therefore the bars investment performance is even better than evidenced by the formal bars figure.

5.3 Purchases by the Retail Sector

The ASI contains data on total purchases by bars. It does not disaggregate between materials (food and drinks) and services in the 2002 and 2003 publications. Earlier ASIs provided this breakdown. Purchases as a per cent of turnover (excluding VAT) was 70%, 69%, 72% and 67% between 2000 and 2003, an average of 69%. Based on our survey of public houses goods for resale was about 51%. The estimated "selected" category of other purchases was 15%. This category excluded depreciation and interest. This would give a total of 66% of sales for all purchases. This estimate falls below the much bigger ASI survey. Based on the two sources we have selected the ASI total purchases to sales and divided it between alcohol/food and other services in the ratio found in our sample.

On average this implies the 69% being divided 53% as alcohol/food inputs ratio to sales and 16% of sales as services/other goods inputs. The ratios change for each of the years as a shown in Table 5.3.1.

Table 5.3.1
Estimates of Purchases as % of Sales

	2000	2001	2002	2003	2004
Total Purchases as % of Sales (ASI)	67	72	69	70	69
Estimated food & drink % of sales	52	56	53	54	53
Estimated other inputs as % of sales	15	16	16	16	16

The 2001 ASI identifies total purchases as 72% of turnover. Goods for direct resale was 52% and other purchases were 20%. Our estimates based on the survey of pubs were 56% and 16%.

In 2000 the position was 67% total purchases and 51% for goods for resale and 16% for other purchases according to ASI. Our estimate was 52% and 15%. Based on the 2001 ASI our estimates for other inputs is possibly an underestimate and the alcohol purchases is overstated. However, as alcohol purchases are already captured in the economic benefits of the drinks manufacturing output and as the "other" pub purchases are an additional benefit it is best to avoid overstatement of the "good" result. Hence the other purchases be public houses as reported here are possibly an understatement.

Based on the above estimates in Table 5.3.1 the actual purchases can now be estimated using the ASI total purchases as a base.

Before doing this it is necessary to compare the CSO national accounts on licence expenditure with the ASI total for the narrower category of bars.

5. Inputs Purchased By The Retail And Wholesale Sectors

Table 5.3.2
Measures of Alcohol Expenditure in Bars 2003

Nat. Acc. Personal On-licence Alcohol expenditure (incl. VAT)	4.274
(exclud. VAT)	3.532
adjusted for food	3.885
ASI Bar Turnover	3.369

Source ASI, Authors estimates, CSO national accounts division

The national accounts personal expenditure on alcohol in on licensed premises adjusted for food amounts to €3.885B which is 15% above the ASI total. In estimating the purchases levels in this report the national accounts concept is used and the ratios described in Table 5.3.1 are used.

Table 5.3.3
Estimates of Inputs Purchased by On Licensed Premises 2003

	€B
ASI Sales	3.369
Adjusted Sales (Table 5.3.2)	3.885
Alcohol & Food inputs	2.098
Other inputs	0.622
Alcohol	1.907
Food 191	

Source Authors estimates

As derived from the methodology discussed above sales in licensed premises in 2003 were €3.885B excluding VAT. This was comprised of alcohol/drinks purchases of €1.907B, food input purchases of €191 and other input purchases (services etc) of €622M.

The estimated 2005 on licensed sales by the same methodology was €4.12B (National. Accounts) total with VAT removed and 10% added for food sales). Alcohol & food inputs were €2.225B, made up of €2.023B alcohol and €202M food. Other inputs were €659M.

In addition to the above investment, materials and services inputs the on licensed sector finances a substantial wages and salaries bill. Wages and salaries data is available for all years and since 2002 a more complete "personnel costs" indicator is given.

Table 5.3.4
Labour Costs-Bars 2003 (€M)

	2000	2001	2002	2003
Wages & Salaries	304.8	368.1	408.6	487.7
Personnel Costs	n.a.	n.a.	447.3	518.1

Source ASI

The bar sector pays a very large pay bill. In 2003 the total labour cost was €518M and the wages and salaries component of this was €487.7M. The wages and salaries level has grown from €304.8M in 2000 to its 2003 level, an increase of 60%. The increase is due to a combination of employment growth and earnings per head growth.

These labour costs are based on the bars definition in the ASI. As already discussed official estimates of total on licence personal expenditure on alcohol from national accounts data are higher than the ASI sales data. On that basis the ASI bar labour costs are also an underestimate of the labour fund associated with the wider on licence sales. Adjusting for this 15% difference, the 2003 total labour cost expenditure is €596M instead of €518M.

The above estimates refer to the retail on licence segment of the distribution industry. The off licence and wholesale sectors also procure inputs and pay wages. Based on estimates of employment in these sectors a conservative estimate would be that an additional 5% should be added to the retail wages bill and 3% to the services inputs to account for these. This brings the wages level to €512M and the services/materials other than alcohol to €641M for the total retail and wholesale sectors.

6. Conclusions

Previous DIGI reports have identified the direct economic benefits which derive from the drinks industry in terms of employment ,output , exports and tax revenue and the positive impact which the sector has on tourism. An industry also contributes to the economy through its procurement from other suppliers. As identified in this report, mainly through the use of official CSO data and identified assumptions where data is insufficient the drinks industry is a major purchaser of goods and services . This is true of both the manufacturing and retail sectors of the industry. The analysis shows that the manufacturing sector in the drinks industry pays €250M in wages and salaries, including other labour costs the total is €300M, buys €375M annually in materials, buys €46M in industrial services and €393M in other services and is also an investor of an average €123M annually over the past few years. This is a higher investment per head than in manufacturing as a whole. The brewing and distilling industry uses 261K tonnes of barley. Agricultural purchases are €105M excluding sugar.

The non-manufacturing sectors pay wages and salaries of €512M, spends €641M on services and materials other than food and drink and invests an average of €176M each year. The on licence sector buys €191 M in food annually.

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Notes

Purchases of Inputs
by the Drinks Industry

A Report Commissioned by the Drinks Industry Group of Ireland

DRINKS INDUSTRY GROUP OF IRELAND