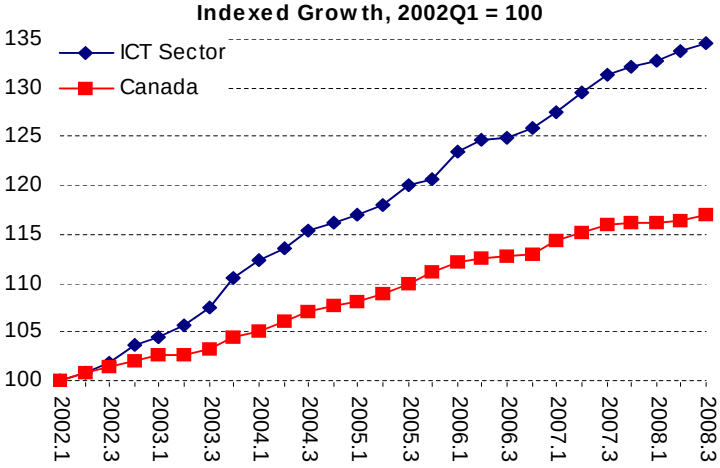
Quarterly Monitor of the Canadian ICT Sector

Gross Domestic Product

ICT output growth continues...

Canada's ICT sector output growth (0.6%) continued to outpace that of all Canadian industries (0.4%) in the third quarter of 2008. In fact, Canada's ICT sector has grown uninterruptedly since the beginning of 2002, and, for the most part, its growth outperforms that of the Canadian economy. As a recent example, in the 2008 year thus far, Canada's ICT sector output has grown by 1.8%, while the Canadian economy increased by 0.7% in the same period. However, annualized calculations indicate that this is the weakest growth for the ICT sector since 2002.

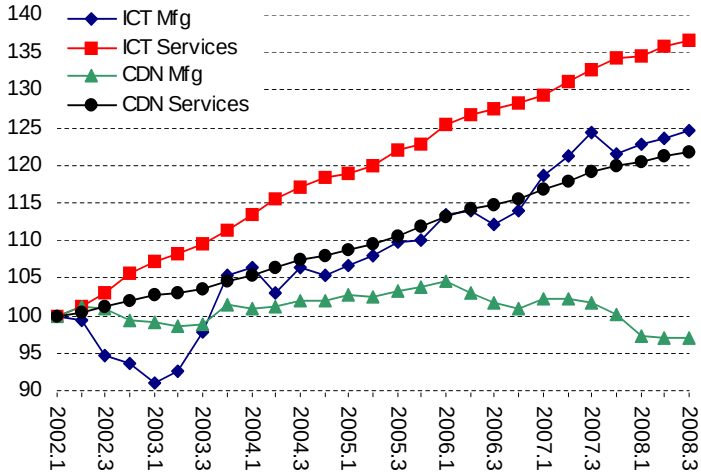
Real GDP: ICT Sector and Canadian Economy, Indexed Growth, 2002Q1 = 100



Since the beginning of 2008, ICT manufacturing GDP has been increasing, up by 0.9% this quarter. Conversely, Canadian manufacturing GDP has been declining continuously since the third quarter of 2007, and is down by 0.1% this period. While ICT manufacturing GDP reached a new high in the third quarter of 2008, Canadian manufacturing GDP recorded its lowest level. The converse trends between these two categories has existed since the beginning of 2002, but became predominant at the beginning of 2005. Since then, GDP in the ICT manufacturing sub-sector has grown by 17%, whereas Canadian manufacturing GDP declined by 5.6%.

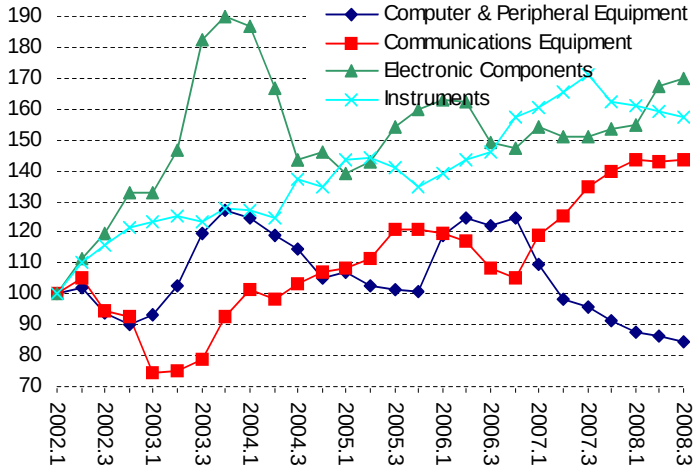
In the third quarter of 2008, GDP for both ICT services (0.6%) and overall Canadian services (0.5%) sectors continued to increase. Moreover, both these categories have displayed continuous growth since the beginning of 2002, up by 37% and 22%, respectively.

Real GDP: ICT & CDN Manufacturing & Services Industries, Indexed Growth, 2002Q1 = 100



The growth experienced by the electronic components (1.7%) and communications equipment (0.3%) industries this period offset the declines in the two remaining key ICT manufacturing industries. The electronic components industry grew for a fifth consecutive quarter and has increased by 16% since the end of 2006. GDP in the communications equipment industry has been trending up since the beginning of 2007 (see annex for more details). Both the computer and peripheral equipment and instruments industries declined this period, down by 2.5% and 1.1%, respectively. While the computer and peripheral equipment industry has declined for nearly two years, the instruments industry has been falling for one year.

Real GDP: Selected ICT Manufacturing Industries, Indexed Growth, 2002Q1 = 100

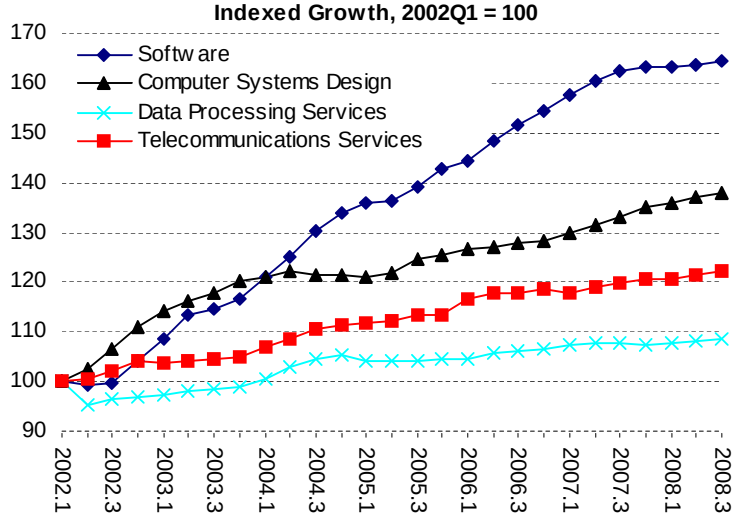


Gross Domestic Product

Amongst the key ICT services industries, growth was led by the computer systems design industry (0.7%), which has grown uninterruptedly since the second quarter of 2005, up by 13.2% since then. The telecommunications services (0.55%) and software (0.53%) industries displayed similar growth rates. The telecommunications services industry experienced the largest nominal increase this quarter and has been steadily increasing (22%) since the beginning of 2002. Likewise, the software industry has displayed positive growth since the second half of 2002, although growth has slowed down in the last four quarters.

For a third consecutive quarter, the data processing services industry increased, up by 0.3% this period. Compared to the other key industries, moderate growth has been characteristic of this industry since the beginning of 2002.

Real GDP: Selected ICT Services Industries, Indexed Growth, 2002Q1 = 100

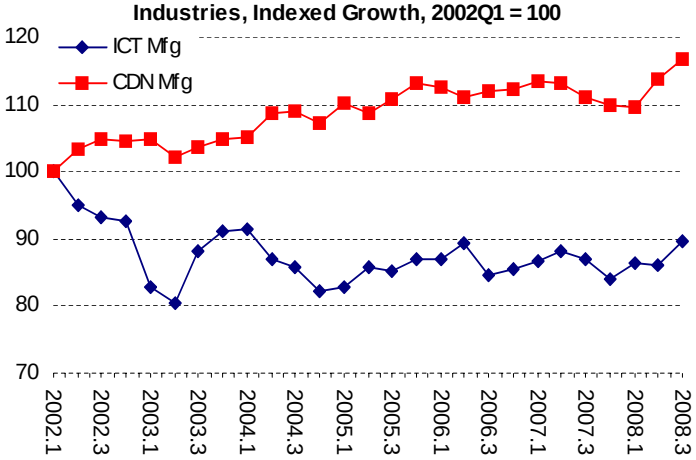


Manufacturing Shipments

ICT manufacturing shipments are up...

ICT manufacturing shipments increased by 4.4% this quarter to reach their highest level since the first quarter of 2004. Following a year of decline, Canadian manufacturing shipments have increased these past two quarters, up by 2.7% in the third quarter of 2008.

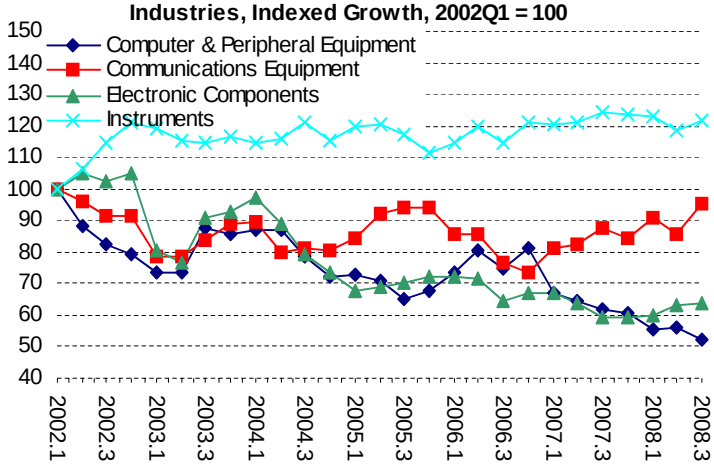
Manufacturing Shipments: ICT and Canadian Manufacturing Industries, Indexed Growth, 2002Q1 = 100



Since the second quarter of 2006, ICT manufacturing shipments have been relatively stable. However, they remain 10.3% lower than at the beginning of 2002.

...with a significant increase in communications equipment.

Manufacturing Shipments: Selected ICT Manufacturing Industries, Indexed Growth, 2002Q1 = 100



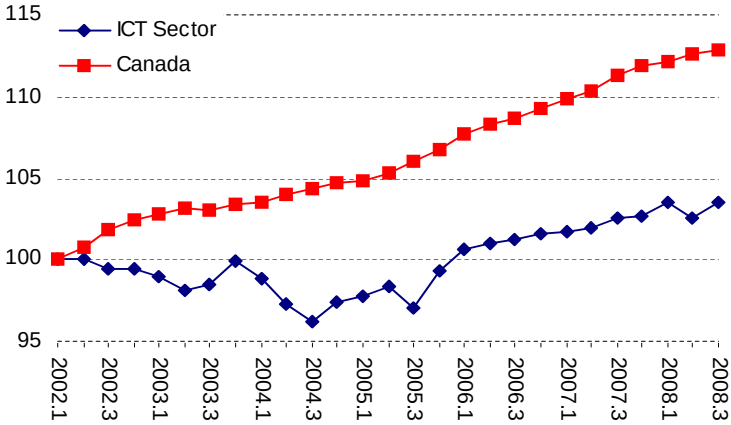
Shipments of communications equipment recorded solid growth (11.3%) in the third quarter of 2008, attributable to the increased shipments of wireless communications equipment (19%). This industry's shipments have been trending up since their lowest recorded level at the end of 2006 (see annex for more details). After three consecutive quarters of decline, instruments shipments grew by 2.7% this period. Compared to 2007, shipments of electronic components have fared well in 2008: they have increased throughout this year, and grew by 1.2% this past quarter. On the other hand, shipments of computer and peripheral equipment declined 6.5% this period, a trend that has persisted since 2007.

Employment*

ICT employment rebounded...

The number of employees in the ICT sector grew by 0.9% this past quarter, to reach its highest recorded level within the reported period. This number has grown by 4.2% since the end of 2005. The number of employees in the whole Canadian economy continued to increase, up 0.2% this quarter.

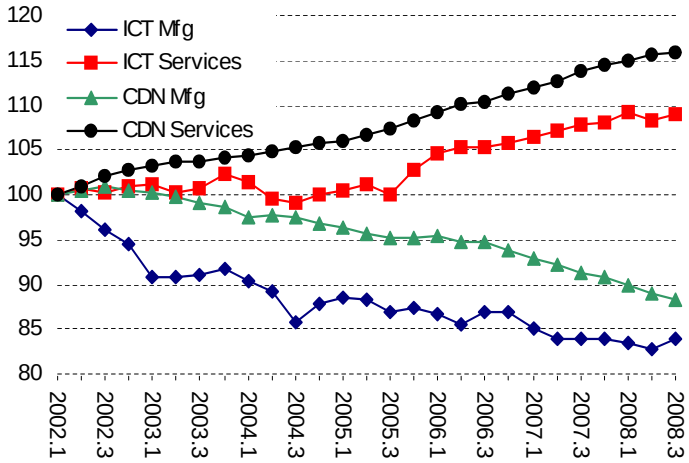
Employment: ICT Sector and Canadian Economy, Indexed Growth, 2002Q1 = 100



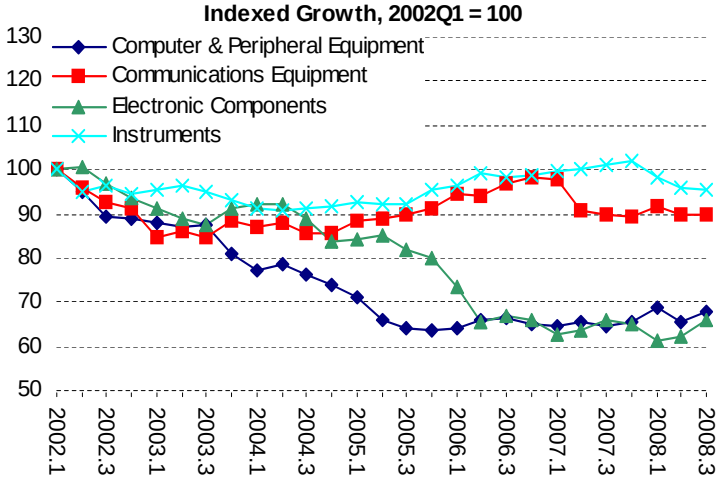
While the number of employees in Canadian manufacturing (-0.8%) declined in the third quarter of 2008, those employed in ICT manufacturing grew (1.5%). Despite the growth, the number of employees in ICT manufacturing has been declining since the beginning of 2002 at an average rate of 0.7% per quarter. Moreover, Canadian manufacturing employment has also been falling within the same period, but at a slower rate of 0.5% per quarter.

Both the ICT services (0.8%) and the Canadian services (0.2%) sectors exhibited increases in their employee numbers in the third quarter of 2008. Upon closer observation, the graphs for the ICT sector and ICT services tend to follow each other closely, due to the intense concentration of individuals employed in ICT services (an average of 80%).

Employment: ICT & CDN Manufacturing & Services Industries, Indexed Growth, 2002Q1 =100

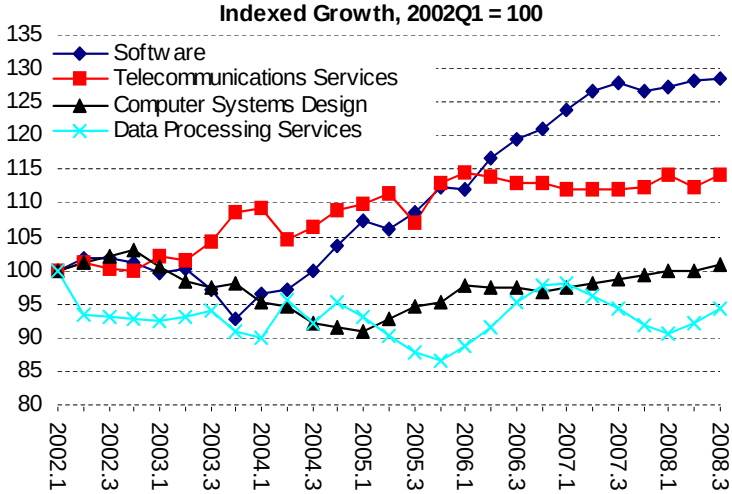


Employment: Selected ICT Manufacturing Industries, Indexed Growth, 2002Q1 = 100



Employment in the electronic components industry displayed the strongest growth (6.2%) and had the largest nominal increase of the four key manufacturing industries. Although employment in this industry has grown over the last two quarters, it has been relatively stable since the second quarter of 2006. The computer and peripheral equipment industry experienced a 3.8% increase in the number of employees, and has grown 6.4% since the low observed at the end of 2005. For a third consecutive quarter, employment in the instruments industry declined, down by 0.5% in the third quarter of 2008, but has been relatively stable since the beginning of 2006. Communications equipment employment declined by 0.1% this period, and has been trending down since the beginning of 2007.

Employment: Selected ICT Services Industries, Indexed Growth, 2002Q1 = 100



For a second consecutive quarter, the data processing services industry recorded a solid increase in the number of employees, up by 2.1% this quarter. Although all key ICT services industries recorded a rise in employment numbers, the increases exhibited by the telecommunications services (1.7%) and computer systems design (1.0%) industries heavily influenced the overall increase in ICT services employment. Since the beginning of 2006, employment in the telecommunications services industry has remained relatively stable, but it has grown by 3.1% in the computer systems design industry. Employment in the software industry grew by 0.3% this past quarter, and has grown since the second quarter of 2006, with the exception at the end of 2007.

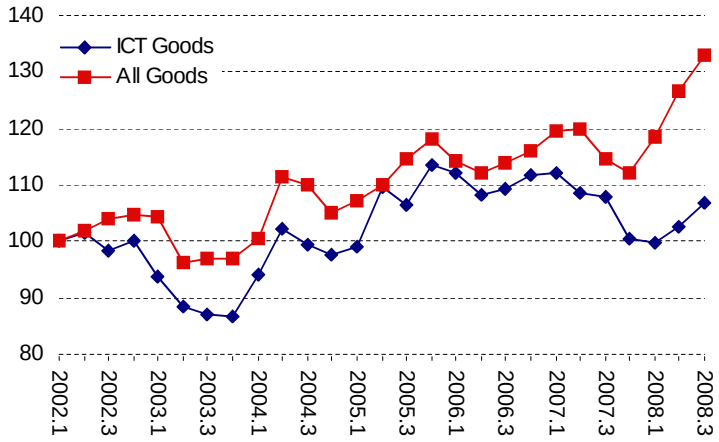
* see note 1 on page 6

Exports of Goods

Exports of ICT goods grew...

Following weak performance in 2007, exports of ICT goods have shown signs of improvement these past two quarters, and increased by 4.2% in the third quarter of 2008. Exports of Canadian goods have displayed solid growth throughout 2008, up by 4.8% this period.

Exports: ICT Goods and All Goods, Indexed Growth, 2002Q1 = 100



...led by strong growth in computer and peripheral equipment.

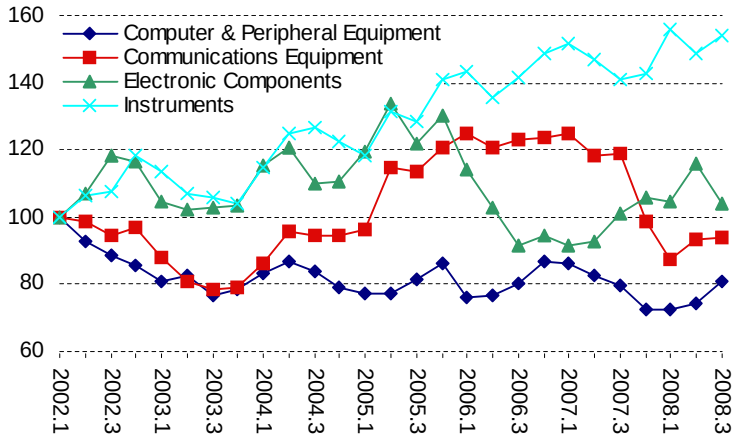
For a second consecutive quarter, exports of computer and peripheral equipment increased, up by 8.5% in the third quarter of 2008. This growth is quite a turn around compared to the previous five consecutive quarters of decline that began in 2007.

This quarter, instruments exports increased by 3.6%. Exports in this group have been trending up since the beginning of 2002, and are now 54% higher.

Once more, exports of communications equipment grew, up by 0.9% this period. Moderate growth was attributable to the increase in wired exports (4.0%). On the other hand, wireless exports declined by 2.2%, after recording exceptional growth (28%) the previous quarter (see annex for more details).

Exports of electronic components exhibited a considerable decline (-10.1%) this quarter, even though the growth last period was quite high. In fact, the growth displayed in this export group has fluctuated significantly this past year. Nevertheless, exports have increased by 14.1% since their lowest recorded levels in the third quarter of 2006.

Exports: ICT Goods by Selected Product Group, Indexed Growth, 2002Q1 = 100

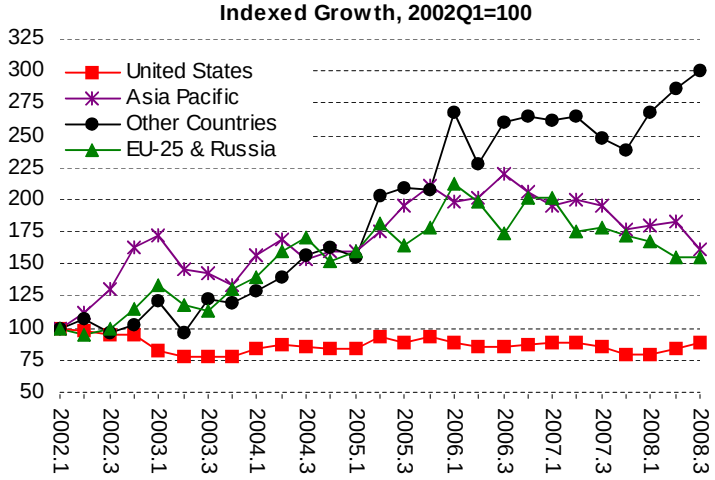


Exports to the US increased...

For a second consecutive quarter, ICT exports to the US and the US share in Canadian ICT exports increased, up by 5.2% and up to 66%, respectively. Compared to other regions, ICT exports to the US have been relatively stable over time, probably due to the proximity and economic integration between the two economies.

This past quarter, ICT exports to "Other Countries" (5.2%) and to the EU-25 & Russia (0.6%) increased. The data indicates there was a huge surge of ICT exports to the Russian market, in particular, in the third quarter of 2008. Exports to "Other Countries" have increased throughout 2008. Conversely, ICT exports to Asia Pacific economies declined by 11.6% this period. In addition, ICT exports to both the Asia Pacific economies and the EU-25 & Russia have been trending down since the second quarter of 2006, while those to "Other Countries" have been rising. Consequently, over the same period, the shares of exports for each of these regions have followed their export trends. This period, the shares of exports to the EU-25 & Russia and Asia Pacific economies declined to 12.5% and 10.3%, respectively, while the share of "Other Countries" grew to 9.6%.

Exports: ICT Goods by Major Market, Indexed Growth, 2002Q1=100



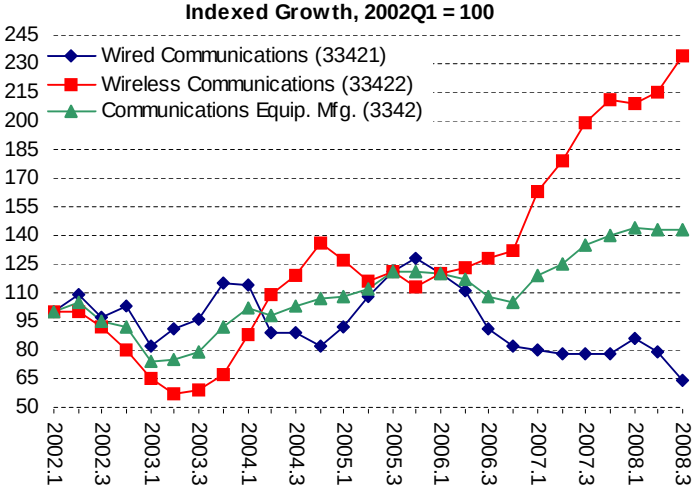
Focus on the Communications Equipment Industry

Further evaluation of the communications equipment industry (subdivided into wired and wireless groups) is necessary towards understanding the nature of this industry's recent developments.

The wireless industry has led GDP growth since 2006...

GDP in communications equipment grew by a moderate 0.3% in the third quarter of 2008. Although GDP in wired communications equipment fell significantly (-19%) this past quarter, the increase recorded by wireless communications equipment (8.5%) offset this large decline. In fact, since the beginning of 2006, the opposite trends between these two industries became more predominant. Specifically, while the wired communications industry fell by 47%, the wireless industry nearly doubled (95%) in value during this period. As well, since the beginning of 2007, the growth in wireless communications equipment has largely influenced the overall growth observed in communications equipment.

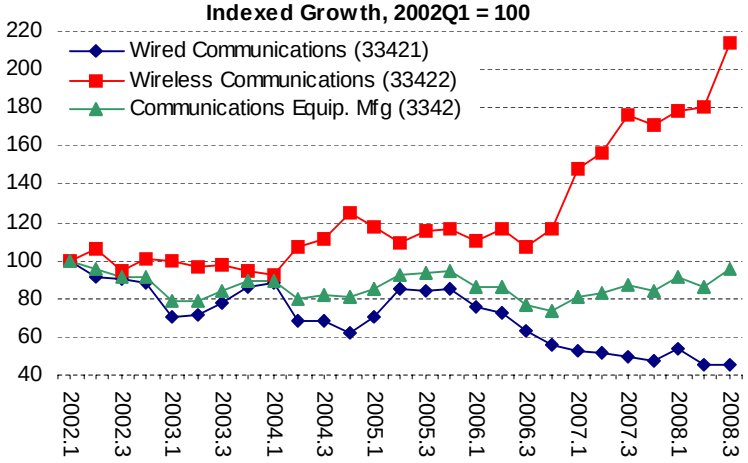
Real GDP: Wired and Wireless Manufacturing Industries, Indexed Growth, 2002Q1 = 100



...as well as the growth in shipments.

The solid growth recorded in shipments of communications equipment this period, was attributable to the significant increase (19%) observed in wireless communications equipment. This industry has shown exceptional growth since the end of 2006, and is now 84% higher. On the other hand, wired communications equipment shipments declined by 1.3% this quarter, and have been trending down since the beginning of 2006. Similar to GDP, the growth in shipments of wireless communications equipment has dictated the overall growth of communications equipment, but to a smaller extent.

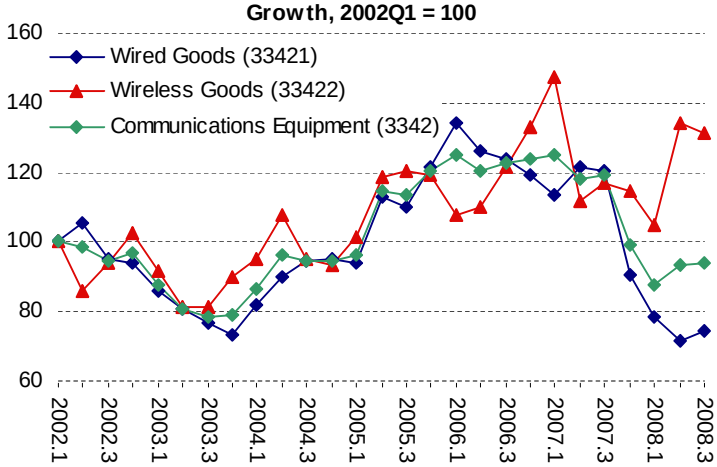
Manufacturing Shipments: Wired and Wireless Industries, Indexed Growth, 2002Q1 = 100



Wireless also outperformed wired in exports since the beginning of 2006...

In the third quarter of 2008, wired exports grew by 4.0%, while those of wireless goods fell by 2.2%, which caused exports of communications equipment to increase 0.9%. Despite this quarter's performance, wired exports (-41%) have been trending down since the second quarter of 2006 and wireless exports (19%) have been growing. Exports of wireless goods have fluctuated considerably since the second quarter of 2006, and have only recently (this past year) dictated the overall movement of communications equipment growth.

Exports: Wired and Wireless Goods, Indexed Growth, 2002Q1 = 100



In summary, since 2006, Canada's communications equipment industry has shifted its production from wired to wireless equipment, reflecting trends of increasing demand for wireless equipment in the domestic and international markets. Currently (third quarter of 2008), wireless equipment accounts respectively for 76% of value-added (GDP), 67% of shipments and 48% of exports of Canadian communications equipment. Less than three years ago (first quarter of 2006), these same ratios were only 47%, 38% and 30% respectively.

Notes, Definitions and Sources

Real GDP Versus Manufacturing Shipments

It is important to note that GDP and shipments differ in two ways. First, GDP measures the total contribution of an industry to the economy in terms of value-added while shipments are a simple measure of revenues. Most of the time, changes in shipments are good indicators of changes in GDP but structural changes to an industry (for example, an increase in outsourcing) can lead to different trends in GDP and shipments indices. Second, GDP is measured in constant dollars while shipments are measured in current dollars. This means that when prices increase, GDP fluctuates less than shipments but when prices decline, GDP fluctuates more than shipments. In the ICT context, this difference is very important in measuring output of the computer equipment industry since a hedonic price index is used. A hedonic price index is a statistical tool used to standardize per unit prices for goods whose quality and characteristics change rapidly such as a computer. The hedonic price index adjusts the price of a computer based on the improvements in speed, design, etc. Using this hedonic price deflator, a very rapid decline in production prices is observed resulting in a much stronger growth in the GDP index compared to the shipments index for the computer equipment industry.

Information and Communications Technologies Sector*

ICT Manufacturing:

- Computer and Peripheral Equipment Mfg
- Communications Equipment Mfg
  - -wired communications equipment mfg
  - -wireless communications equipment mfg
- Audio and Video Equipment Mfg
- Electronic Component Mfg
- Instruments Mfg
- Communication Wire and Cable Mfg
- Commercial and Service Machinery Mfg

** Based on the North American Industry Classification System*

ICT Services:

- Software
- Computer Systems Design
- Data Processing Services
- Telecommunications Services
- Cable and Other Program Distribution
- ICT Wholesaling

***Sources**:*
GDP: GDP by Industry, Industry Measures and Analysis Division, Statistics Canada.
Manufacturing Shipments: Monthly Survey of Manufacturing, Manufacturing, Construction and Energy Division, Statistics Canada.
Employment: Survey on Employment, Payrolls and Hours (SEPH), Labour Statistics Division, Statistics Canada.
Exports: Trade Data Online, International Trade Division, Statistics Canada.

***Notes**:*

1. *Employment trends based on the Survey on Employment, Payrolls and Hours (SEPH) used in this publication might be slightly different from the trends based on annual industry specific surveys reported in the ICT Statistical Overview. Although data from SEPH might not be as reliable as data from industry specific surveys, they are more timely and provide an indication of the current employment situation.*
2. *Data used in this report are adjusted for seasonal variation.*

Export Markets:

United States: United States.

EU-25&Russia: United Kingdom, Germany, France, Belgium, Netherlands, Italy, Spain, Sweden, Austria, Finland, Ireland, Denmark, Poland, Portugal, Czech Republic, Greece, Luxembourg, Hungary, Slovenia, Latvia, Lithuania, Estonia, Slovakia, Cyprus, Malta, and Russia.

Asia Pacific (based on Department of Foreign Affairs and International Trade definition): Afghanistan, Australia, Bangladesh, Bhutan, Brunei Darussalam, Burma (Myanmar), Cambodia (Kampuchea), China, Cook Islands, Fiji, French Polynesia, Guam (U.S.), Hong-Kong, India, Indonesia (includes East Timor), Japan, Kiribati (includes Tuvalu), South Korea, Kyrgyzstan, Laos, Macau (Macao), Malaysia, Maldives, Micronesia, Mongolia, Naura, Nepal, New Caledonia, New Zealand, Niue, Pakistan, Papua New Guinea, Philippines, Singapore, Solomon Islands, Sri Lanka, Taiwan (Taipei), Tajikistan, Thailand, Tonga, Turkmenistan, Uzbekistan, Vanuatu (New Hebrides), Vietnam.

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