
New senators

Prime Minister Pierre Trudeau announced the names of seven new appointees to the Senate on March 23, including Minister of National Revenue J.-P. Guay, who will retain his portfolio.

Former Premier of Manitoba, Duff Roblin, who resigned in 1967 after 18 years in the provincial Legislature — nine as premier — is one of the seven new senators, as well as Florence Bird, who was appointed Chairman of the Royal Commission on the Status of Women in 1967.

Dr. Stanley Haidasz, former Minister of State for Multiculturalism, Jack Marshall, Progressive Conservative Member of Parliament, Derek Lewis, former Treasurer and Secretary of the Liberal Party, and Margaret Anderson, who was President of the New Brunswick Liberal Women's Association, were also named.

International payments — fourth quarter 1977

In the final quarter of 1977, the seasonally-adjusted current-account deficit fell to \$692 million from \$1,220 million in the previous quarter. There was a balance-of-payments deficit, measured by net official monetary movements, of \$291 million, which, with a net capital inflow of \$443 million, financed a current-account deficit, unadjusted for seasonal variations, of \$734 million.

The main quarterly movements were:

- a faster rise in seasonally-adjusted merchandise exports than in imports, which led to a \$528-million increase in the surplus on merchandise trade to \$1,154 million;
- within the seasonally-adjusted non-merchandise data, some easing in travel payments abroad but sharp increases in interest and dividend payments to non-residents;
- an \$800-million reduction in new Canadian security issues sold abroad to \$1,107 million — the lowest level since the third quarter of 1975, reflecting generally lower bond-market financing by Canadian borrowers and a narrowing of long-term interest-rate differentials between Canada and major capital markets abroad;
- a continued inflow of non-resident funds into Canadian money-market instruments amounting to some \$221 million

as hedged interest-rate differentials, while narrowing slightly, were still attractive to non-residents, particularly United States investors;

- a reduction in the chartered banks' net foreign-currency position with non-residents, which led to a capital inflow of \$723 million, a swing of over \$1 billion from the previous quarter's outflow.

The Canadian dollar dipped below 90 cents (U.S.) in October and again in November. To reduce speculative activity on foreign-exchange markets, the Government announced in October the establishment of a line of credit for \$1.5 billion (U.S.) with the Canadian chartered banks.

Last year

For 1977 as a whole, there was a small increase in the current-account deficit to \$4,238 million. Owing to a \$1.9-billion reduction from the previous year in the net capital inflow to \$2,817 million, financing to meet the deficit was also required through a reduction in official reserves of \$1,421 million.

The main features in the year were:

- a virtual tripling of the merchandise-trade surplus to \$2,907 million, which was more than offset by a \$2.0-billion increase in the deficit on non-merchandise transactions;
- within the non-merchandise account, jumps of \$900 million and about \$500 million, respectively, in net payments of interest and dividends and on travel account;
- new Canadian issues sold abroad of \$5,778 million, \$3.3 billion below the record 1976 level;
- a return to a net inflow for foreign long-term direct investment in Canada, amounting to \$410 million;
- a net outflow of \$780 million for Canadian direct investment abroad, an increase of over 40 per cent from that of 1976;
- a twofold increase to \$532 million in the outflow to expand export credits granted directly or indirectly at the risk of the Government of Canada;
- a sharp reduction to \$422 million in the net inflow from non-residents for the acquisition of Canadian money-market instruments;
- an inflow of \$1,384 million as chartered banks reduced their net foreign-currency position abroad, a turnaround of over \$2.3 billion from the outflow in 1976;
- a doubling of the net outflow to \$497 million for the acquisition of non-bank

holdings of short-term funds abroad;

- a decline of \$1,236 million (U.S.) in the level of official international reserves to \$4,607 million (U.S.) at the end of the year;
- a depreciation of the Canadian dollar *vis-à-vis* the United States dollar and a weighted average of the currencies of Canada's major trading partners of 7.8 per cent and 9.4 per cent respectively, as the Canadian dollar fell even more sharply in relation to overseas currencies than in relation to the United States dollar.

Bionic cattle

A 'bionic cow' is being developed in Canada to make artificial insemination more feasible in beef production. (In 1976, more than 53 per cent of the national dairy herd was artificially bred, compared to only 5.4 per cent of the beef herd.)

While dairy herds are usually confined to the barn or nearby pasture where cows can be closely observed for estrus, beef cattle, on the other hand, may range over hundreds of acres. Checking for estrus is time consuming and the amount of labour involved often makes artificial insemination economically unfeasible.

Scientists at Agriculture Canada's Lethbridge, Alberta, Research Station, who are studying estrus and ovulation in cattle, hope to use this knowledge to develop an electronic method for detecting estrus.

Glenn Coulter, a reproductive physiologist there, says this would permit cattlemen to monitor their herds 24 hours a day without close contact.

"We are conducting experiments with small radio transmitters equipped with sensory probes. These are either placed surgically deep in the body to measure temperature changes in reproductive organs, or attached to the ear with a sensory probe running into the ear canal to measure brain temperature," he says.

The sensory probes can measure the slightest temperature change and this information is transmitted continuously by radio signals to the laboratory at the research station.

"From this data we expect to be able to identify temperature changes that are specific to estrus and ovulation," Dr. Coulter says.

"Research is still at a very early stage, but radio-equipped 'bionic cows' may become common," he concludes.