FEB 22 1972

No. 7

BANK OF CANADA
STAFF RESEARCH STUDIES



THE STRUCTURE OF RDX2

PART 2

1971

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This study was prepared as part of the econometric research programme of the Research Department of the Bank of Canada. The views expressed are those of the authors and no responsibility for them should be attributed to the Bank.

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APPENDIX A

ALPHABETICAL LIST OF VARIABLES USED IN RDX2

All the Canadian variables used in RDX2 have mnemonic titles that follow a naming scheme developed for RDX2. This scheme is based on procedures suggested for use in Project LINK [1], and is intended to ease the problems of linking various national models. Since RDX2 has much more detail in its balance of payments, financial, and government sectors than is allowed for in these sectors of the Project LINK models, we have substantially extended and modified the Project LINK procedures to suit our purposes. However, we are planning to link RDX2 to a recent version of the MPS model (formerly known as the FRB-MIT-Penn model) and are using data from that model as the source of all U.S. variables appearing in RDX2. Thus all these variables bear the names assigned to them in the MPS model. For inclusion in RDX2, such names have the numeral 2 appended to warn the reader that the RDX2 naming scheme does not apply to these variables.

The dominant principle in the RDX2 mnemonic system is that

[1] Equchi, H., C. Moriguchi and T. Watanabe: "A Framework of Standardized Notation in Econometric Models." [KIER Discussion Paper 26, 1970 read at the Stanford meeting of Project LINK.] March 19, 1970. 12 1.

the first letter of a variable indicates its general role in the model and how the variable is measured. Descriptions of our first-letter classification follow, exceptions being noted under the relevant letter.

A is a financial asset at book value measured in millions of dollars.

C is a consumption expenditure measured in millions of 1961 dollars.
CPVME is present tax value of depreciation allowances for machinery and equipment.
CPVNR is present tax value of depreciation allowances for non-residential construction.

D is a deposit in a financial institution measured in millions of current dollars.
An appended B indicates a bank deposit.

E is an exogenous, quantitative variable, but of various units.

F is an international capital flow measured in millions of current dollars. (FI is an inflow and FO is an outflow.)
FX is an excess demand for spot exchange.

G is a government expenditure, transfer payment, or balance item measured in millions of current dollars.
G...F is federal government.
G...PM is combined provincial and municipal governments.

H is a mortgage loan approval measured in millions of current dollars.
HAW is average weekly hours.
HST is housing starts measured in thousands per quarter.

I is an investment expenditure measured in millions of 1961 dollars.

J is an operator. The J is always followed either by a numeral or by W. The numeral refers to the number of quarters, including the current quarter, involved in the operation. The following operations are defined in a case where J is followed by some

numeral.
J3A is a three-quarter unweighted moving average starting in the current quarter.
J3D is a three-quarter difference.
J3L is a three-quarter lag.
J3P is a three-quarter percentage change.
J3S is a three-quarter moving sum.

The JW operator is a weighted moving average (or an unweighted moving average not starting in the current quarter). The weights are listed under the equation in which the operator is used. If the weights are estimated by a polynomial distributed lag technique, then the absolute values of the t-statistics are shown beside the weights. If the weights have been specified a priori, then the estimated coefficient and t-statistic are shown in the equation. The variable to which the J operator applies is shown in parenthesis immediately behind the operator.

K is real capital, net of depreciation, measured in millions of 1961 dollars.
KMEY is a desired capital/output ratio for machinery and equipment.
KNRY is a desired capital/output ratio for non-residential construction.

L is a financial liability at book value measured in millions of current dollars.

M is imports measured in millions of 1961 dollars.

N is persons measured in millions.
NHH is in thousands.

P is a price or price index with a 1961 base value of 1.
PFX is the exchange rate measured in Canadian dollars per U.S. dollar.

Q is a seasonal or dummy variable.

R is an interest rate, tax rate, or other rate always defined as per cent per annum.

S is a stock of an asset measured in units.

T is a tax revenue measured in millions of current dollars.
TR is a transfer from persons to governments.

U is an endogenous variable not otherwise classified.

V is the market value of some A, L, K, or S variable measured in millions of current dollars. V alone is private sector wealth, or net worth, measured at market value in millions of dollars.

W is a wage rate measured in current dollars.

X is exports measured in millions of 1961 dollars.

Y is an income item measured in millions of current dollars.

Z is an exogenous monetary or fiscal policy variable.

When numbers appear at the end of a variable they refer to countries. Thus 1 refers to Canada, 2 refers to the United States, and 3 refers to other countries. When two numbers appear at the end of a variable the first one indicates the country to which the variable refers. Thus X12 represents trade flows from Canada to the United States measured in millions of 1961 dollars. Variables are measured in terms of the currency of the 'actor' country. For example L12 is a liability of Canada to the United States measured in millions of current Canadian dollars. The variable L21 would represent the same debt seen as a U.S. asset, and therefore measured in terms of current U.S. dollars. A dollar sign appearing as part of a variable indicates that the variable is the current-dollar value of a constant-dollar variable. For example IIG$ is the current-dollar value of the constant-dollar variable IIG.

There are 588 variables in RDX2. Of these, 265 are endogenous and 323 are exogenous. In addition to the mnemonic and the description for each variable, the list of variables contains the RDX2 tape number for every entry as well as the

equation number in the case of the endogenous variables. There are two ways of distinguishing the endogenous and exogenous variables of RDX2. Each variable endogenous to RDX2 has an equation number (e.g. 9.11 indicates the eleventh equation in Sector 9), and a simulator coding number preceded by X. Each variable exogenous to RDX2, whether or not the variable is endogenous to the U.S. model, has a simulator coding number prefixed by E, but no equation number.

Eight exceptions to this rule should be noted. Although ABELNF, IMEGF, IMEGPM, NEUPB, PCMV, PXMV12, WQISM and YNFNC have simulator coding numbers in the X series these variables are in fact exogenous to RDX2. (In Appendix B we show the equation for PCMV (7.3), but, since PCMV is treated as exogenous to RDX2, equation 7.3 has not been coded in the simulator.)

For the most part the model data are available on tape as quarterly time series. However, a number of variables are on the RDX2 tape as monthly series and must be converted to quarterly series when used in the model. Use of the monthly series is indicated in the variable list by an RDX2 tape number that includes a final numeral in brackets. For example the RDX2 tape number for ABBCD is B255(9). A (7), (8) or (9) indicates the nature of the conversion: a (7) indicates that the quarterly data are the sum of the monthly data, an (8) that the quarterly data are an average of the months, and a (9) that the quarterly data are equal to the data of the last month of the quarter. The RDX2 tape number also gives a clue to the status within the

MPS model of the U.S. variables we use [illegible] the range FM1 to FM200 are drawn from the MPS list [illegible] variables, whereas numbers in the range FM201 and up are [illegible] the MPS list of exogenous variables.

All RDX2 data are seasonally unadjusted. All MPS data are seasonally adjusted, with flow variables at annual rates.

ALPHABETICAL LIST OF VARIABLES USED IN RDX2

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
A12	11879	20.7	X=1	Book value of U.S. indebtedness to Canada, including retained earnings accruing to Canadian shareholders
A13	11880	20.8	X=2	Book value of the indebtedness of other countries to Canada, including retained earnings accruing to Canadian shareholders
ABBCD	B255(9)	16.7	X=13	Bank of Canada deposits held by chartered banks
ABBCN	B252(9)	16.2	X=14	Bank of Canada notes held by chartered banks
ABEC	BS621(8)		E=199	Excess cash reserves held by chartered banks on a statutory basis
ABEL	BS601	16.8	X=3	Chartered bank earning liquid assets
ABELCD	BS602	16.9	X=4	Chartered bank Canadian dollar earning liquid assets
ABELNF	B1809(9)	See p. v	X=5	Chartered bank net foreign assets
ABLB	BS603	16.6	X=6	Chartered bank business and miscellaneous general loans
ABLGBPM	BS606		E=237	Chartered bank holdings of provincial and municipal direct and guaranteed bonds
ABLM	BS605		E=236	Chartered bank mortgage loans
ABLO	BS604		E=108	Other loans held by chartered banks
ABLP	B1405(9)	16.5	X=9	Chartered bank personal loans
ABSC	B619(9)		E=2	Corporate securities held by chartered banks

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
ABSTATN	B803(9)	16.3	X=16	Bank of Canada notes held by chartered banks on a statutory basis
ABT	BS600	16.10	X=10	Chartered bank total assets
ALI	BS123		E=104	Assets of life insurance companies
ANFCUR	B2010(9)	15.1	X=15	Currency outside chartered banks held by non-financial public
ANFGN	BS380	15.9	X=11	Government of Canada, provincial and municipal debt less chartered bank day, call and short loans held by nonfinancial public
ANFLIQ	BS381	15.10	X=12	Liquid assets held by nonfinancial public
APLLI	BS109		E=114	Life insurance company policy loans
ATL	14676	17.11	X=267	Assets of trust and loan companies
AYCRE12	11895		E=4	Retained earnings accruing to Canadian shareholders from U.S. corporations
AYCRE13	11896		E=5	Retained earnings accruing to Canadian shareholders from corporations in other countries
CCA$	D40010		E=240	Capital consumption allowances
CCAC$	3711		E=187	Capital consumption allowances, corporations
CCAGF$	D40100		E=217	Capital consumption allowances, federal government
CCAGH$	D40103		E=228	Capital consumption

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				allowances, hospitals
CCAGPM$	13645		E=227	Capital consumption allowances, provincial and municipal governments
CDO	11377	1.4	X=18	Consumer expenditure on durables (excluding motor vehicles and parts)
CMV	11375	1.3	X=19	Consumer expenditure on motor vehicles and parts
CNDSD	14636	1.1	X=20	Consumer expenditure on non-durables and semi-durables
CPVME	11985		E=273	Present tax value of depreciation allowances, machinery and equipment
CPVNR	11986		E=274	Present tax value of depreciation allowances, non-residential construction
CS	D40213	1.2	X=21	Consumer expenditure on services
CSMVOD	11752	1.7	X=22	Imputed consumer services from the stock of motor vehicles and other consumer durables
DCDPB	BS370	15.11	X=24	Canadian dollar deposits in chartered banks (excluding Government of Canada deposits)
DDB	BS371	15.5	X=25	Demand deposits in chartered banks (excluding float, Government of Canada deposits and personal chequing accounts)
DDGFB	B652(9)		E=92	Government of Canada demand deposits in chartered banks
DNPTB	B655(9)	15.7	X=27	Nonpersonal term and notice deposits in chartered banks

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
DPB	BS372	15.2	X-28	Personal savings and personal chequing accounts in chartered banks
DSTATB	B806(9)	16.1	X=29	Statutory deposits in chartered banks
DSTL	14666	15.3	X=261	Chequable and non-chequable demand and savings deposits in trust and loan companies
DSWPB	BC2605	15.6	X-30	Swapped deposits in chartered banks
DTTL	14665	15.8	X-260	Receipts and guaranteed investment certificates deposited in trust and loan companies
EACR	13607		E-275	Weighted average coupon rate for Government of Canada direct market issues
EACR1C	13603		E-252	Weighted average coupon rate for Government of Canada direct market issues, maturity class 1
EACR2C	13604		E-253	Weighted average coupon rate for Government of Canada direct market issues, maturity class 2
EACR3C	13605		E=254	Weighted average coupon rate for Government of Canada direct market issues, maturity class 3
EACR4C	13606		E-255	Weighted average coupon rate for Government of Canada direct market issues, maturity class 4
EACRCSB	13665		E-276	Weighted average coupon rate for Canada Savings Bonds
EATM1C	13660		E-256	Average term-to-maturity

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				of Government of Canada direct market issues, maturity class 1
EATM2C	13661		E=257	Average term-to-maturity of Government of Canada direct market issues, maturity class 2
EATM3C	13662		E=258	Average term-to-maturity of Government of Canada direct market issues, maturity class 3
EATM4C	13663		E=259	Average term-to-maturity of Government of Canada direct market issues, maturity class 4
EC2	FM6		E=149	U.S. consumer expenditure on durables (1958 dollars)
EC$2	FM52		E=261	U.S. consumer expenditure on durables (current dollars)
ECCA63A	13649		E=67	Variable to capture effects on taxable corporate profits of accelerated depreciation allowances introduced in 1963
ECCA66R	13650		E=68	Variable to capture effects on taxable corporate profits of reduced depreciation allowances introduced in 1966
ECINT	3745		E=110	Interest payments on Canadian corporate bonds and debentures
ECO2	FM44		E=43	U.S. personal consumption expenditure (1958 dollars)
ECO$2	FM51		E=41	U.S. personal consumption expenditure (current dollars)
EDO	13542		E=172	Average consumption of diesel oil (million

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				gallons per registered commercial motor vehicle)
EDTCA	13545		E=173	Variable to allow for overstatement of TCA and TCAF due to the use of a weighted marginal rather than a weighted average tax rate
EF68E	13709		E=7	Foreign exchange crisis expectations variable, 1.0 in 1Q68, -1.0 in 2Q68, zero elsewhere
EG61MPF	13523		E=85	Military pay and allowances (1961 dollars)
EGAS	13541		E=170	Average gasoline consumption (million gallons per registered noncommercial motor vehicle)
EGUIDE	13708		E=8	U.S. balance of payments guidelines variable
EIADJ	14663		E=313	Investment adjustment entry
EIET	13707		E=9	Interest equalization tax variable
EIETB	14652		E=290	Variable to reflect deferral of new corporate, provincial and municipal bond issues in the United States because of uncertainty about the exemption of such issues from the U.S. interest equalization tax. Uncertainty ended when the exemption became law and deferred deliveries took place in 4Q64; -.2 from 3Q63 to 3Q64 inclusive, +1.0 in 4Q64, zero elsewhere
EIFDMIS	13666		E=277	Miscellaneous components of interest on federal public debt

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
ELEFF	14624		E-272	Labour efficiency factor
EMEDPAY	13680		E=320	Provincial medicare payments (current dollars)
ENARES	D40237		E=84	National accounts expenditure residual
ENARES$	D40031		E=90	National accounts expenditure residual (current dollars)
ENT1C	11302		E=111	Proportion of total tax returns filed by taxpayers with assessed incomes between $0 and $3,000
ENT2C	11303		E=112	Proportion of total tax returns filed by taxpayers with assessed incomes between $3,000 and $5,000
ENT3C	11304		E=113	Proportion of total tax returns filed by taxpayers with assessed incomes between $5,000 and $10,000
EP68E	13710		E=10	Foreign exchange crisis support variable, 1.0 in 1Q68, zero elsewhere
EPD2	FM20		E=80	U.S. expenditure on producers durables (1958 dollars)
EPD$2	FM49		E=316	U.S. expenditure on producers durables (current dollars)
EPFXE	14606		E=189	Normal exchange rate. Prior to 2Q61 equals 1.0, from 3Q61 to 3Q62 equals PFX, from 4Q62 forward equals 1.081
EPOP	13818		E=307	The proportion of total population (NPOPT) in the labour force population (NPOP)
EPS2	FM19		E=70	U.S. expenditure on

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				producers structures (1958 dollars)
EPS$2	FM50		E=317	U.S. expenditure on producers structures (current dollars)
ERBCRDD	BS632		E=200	Required cash reserve ratio for chartered bank demand deposits (per cent)
ERBPCA	BS631		E=201	Ratio of personal chequing deposits to total personal deposits (per cent)
ERDO	13540		E=171	Weighted average provincial diesel oil tax rate (dollars per gallon)
ERES1ADJ	13706		E=11	Adjustment variable used to convert published foreign exchange reserve series to a stock the first difference of which is an accurate measure of FXO. Variable is based on Bank of Canada deposit liabilities plus sterling bond retirements in 1963, and is used in balance of payments statistics
ERES2ADJ	14660		E=182	Second adjustment variable used to convert published foreign exchange reserve series to a stock the first difference of which is FXO. Variable is based on IMF technical drawings, and is not used in balance of payments statistics
ERGAS	13539		E=169	Weighted average provincial gasoline tax rate (dollars per gallon)
ERMEDPM	13538		E=93	Weighted average rate of medical care insurance premiums

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
ERPAF	13667		E=291	Variable to redistribute federal retroactive wage payments made from 2Q69 to 1Q70
ERTIMVPM	13526		E=167	Weighted average provincial rate of licence fee for registered commercial motor vehicles (dollars per vehicle)
ERTPHPM	11995		E=115	Weighted average hospital insurance premium
ERTPMVPM	11998		E=162	Weighted average provincial rate of licence fee for registered noncommercial motor vehicles (dollars per vehicle)
ERUIB	11248		E=183	Weighted rate of maximum unemployment insurance benefit (dollars per week)
ESAEC2	14620		E=262	Seasonal adjustment factor for U.S. consumer expenditure on durables (EC$2)
ESAXO2	14621		E=267	Seasonal adjustment factor for U.S. gross national product (XOBE$2)
ESUR	13674		E=279	Amount of surcharge that would have been collected had the 1961 volume of goods imports been maintained throughout the surcharge period 2Q62-1Q63
EWEURO	14661		E=177	Index of the real wage rate in Great Britain, Italy and West Germany (1961=1.0)
EWLF	13507		E=99	Ratio of resident-held Government of Canada direct market issues (excluding treasury bills) to resident-held total Government of

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				Canada, provincial and municipal direct market issues
EYDIVA11	13514		E=116	Ratio of assessed dividend income to total dividends paid to Canadians by Canadian corporations
EYNWAS1C	13591		E=117	Proportion of assessed nonwage income earned by taxpayers with assessed nonwage incomes between $0 and $3,000
EYNWAS2C	13592		E=118	Proportion of assessed nonwage income earned by taxpayers with assessed nonwage incomes between $3,000 and $5,000
EYNWAS3C	13593		E=119	Proportion of assessed nonwage income earned by taxpayers with assessed nonwage incomes between $5,000 and $10,000
EYWAS1C	13587		E=151	Proportion of assessed wage income earned by taxpayers with assessed wage incomes between $0 and $3,000
EYWAS2C	13588		E=152	Proportion of assessed wage income earned by taxpayers with assessed wage incomes between $3,000 and $5,000
EYWAS3C	13589		E=153	Proportion of assessed wage income earned by taxpayers with assessed wage incomes between $5,000 and $10,000
FIBL13	11886	19.11	X-31	Sales of Canadian corporate bonds and shares in other countries. Gross new issues, less retirements, plus net trade in outstanding

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				bonds and shares
FIDI12	D51560	19.1	X=32	Direct investment in Canada from the United States
FIDI13	13734	19.2	X=33	Direct investment in Canada from other countries
FIGB13	11885	19.10	X=34	Sales of Government of Canada, provincial and municipal bonds in other countries. Gross new issues, less retirements, plus net trade in outstanding bonds
FIL012	11897		E=12	Other long-term capital inflows from the United States
FIL013	11898		E=13	Other long-term capital inflows from other countries
FINIB12	2030	19.6	X=35	Sales of gross new issues of Canadian corporate bonds in the United States
FINIGF12	11888		E=14	Sales of gross new issues of Government of Canada bonds in the United States
FINIPM12	11882	19.5	X=36	Sales of gross new issues of provincial and municipal bonds, direct and guaranteed, in the United States
FIPVB12	11884	19.9	X=37	Purchases of Canadian corporate shares on a portfolio basis by U.S. residents. Gross new issues, less retirements, plus net trade in outstanding shares
FIRETB12	2071		E=15	Retirements of Canadian corporate bonds held in the United States

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
FIRETG12	11889		E=16	Retirements of Government of Canada, provincial and municipal bonds held in the United States
FIS	9139	21.5	X=40	Net inflow of private short-term capital
FITOBB12	1992	19.8	X=38	Trade in outstanding Canadian corporate bonds between Canada and the United States (net sales to the United States)
FITOGB12	11883	19.7	X=39	Trade in outstanding Government of Canada, provincial and municipal bonds between Canada and the United States (net sales to the United States)
FIYCRE12	11869	19.13	X=262	Canadian corporate retained earnings accruing to U.S. shareholders
FIYCRE13	14681		E=203	Canadian corporate retained earnings accruing to residents of other countries
FODI12	13735	19.3	X=41	Direct investment from Canada in the United States
FOL13	11881	19.4	X=42	Long-term direct and portfolio investment in bonds and shares from Canada in other countries
FOPL12	11887	19.12	X=43	Purchases of U.S. bonds and shares by Canadians. Gross new issues, less retirements, plus net trade in outstanding bonds and shares
FXO	13704	21.1	X=44	Official excess demand for spot exchange

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
FXP	13700	21.2	X=45	Private excess demand for spot exchange
GALPM	13531		E=159	Changes in asset and liability accounts of provincial and municipal governments
GAMIS	13508		E=17	Changes in miscellaneous asset and liability accounts of the Government of Canada
GASSTF	13643		E=18	Federal capital assistance to industry
GASSTPM	D40129		E=224	Provincial capital assistance to industry
GBALF	13535	14.6	X=46	Federal national accounts balance (+ if surplus)
GBALH	D40172	14.8	X=259	Hospital national accounts balance (+ if surplus)
GBALPM	11999	14.7	X=47	Provincial-municipal national accounts balance (+ if surplus)
GBCPPPM	13529		E=160	Provincial bonds purchased by Canada Pension Plan Investment Fund
GBRETSPM	13530		E=105	Retirements of provincial and municipal bonds
GBRPM	13528	14.11	X=48	Gross new issues of provincial and municipal bonds (excluding provincial issues to Canada Pension Plan Investment Fund)
GCGSH	D40116		E=208	Current expenditure on goods and services by hospitals
GCNWF	11954	12.3	X=256	Federal current nonwage expenditure

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
GCNWPM	11965	13.4	X=257	Provincial-municipal current nonwage expenditure
GGSDF	D40113		E=308	Current defence expenditure on goods and services
GMPF	D40001		E=19	Military pay and allowances
GSUBSF	D40125		E=20	Federal subsidies
GSUBSPM	D40126		E=21	Provincial-municipal subsidies
GTGHPM	13644		E=225	Provincial-municipal transfers to hospitals
GTGMP	D40089		E=295	Provincial transfers to municipalities
GTGPMF	13642		E=22	Federal transfers to provinces and municipalities
GTNRF	D40130		E=218	Federal transfers to non-residents
GTPINTF	D40132	11.5	X=51	Interest on the federal public debt
GTPINTPM	13646		E=23	Provincial-municipal interest payments to persons
GTPOF	11991		E=24	Other federal transfers to persons
GTPPM	13537		E=25	Provincial-municipal transfers to persons
GTPUIBF	D1235(7)	11.2	X=52	Unemployment insurance benefits
GWIF	11961		E=26	Federal wages, salaries and supplements paid to employees in non-commercial institutions
GWIPM	11953		E=27	Provincial and municipal wages, salaries and supplements paid to employees in non-commercial institutions

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				(excluding schools)
GWPASPM	11967		E=210	Provincial and municipal wage supplements paid to employees in public administration
GWSF	11950		E=29	Federal wage supplements paid to employees in public administration and defence
GWSSM	11932		E=211	Municipal wage supplements paid to employees in elementary and secondary schools
HAPB	BS1611(7)		E=98	Mortgage loans approved by chartered banks
HAPCMHCM	11371		E=120	Direct NHA loans approved by CMHC for multiple dwellings
HAPCMHCS	11370		E=96	Direct NHA loans approved by CMHC for single-detached dwellings
HAPLI	BS1632	17.10	X=266	Life insurance company mortgage approvals
HAPTL	14675	17.9	X=265	Trust and loan company mortgage approvals
HAWC	11836	5.4	X=55	Average weekly hours worked in construction
HAWMM	11850	5.3	X=56	Average weekly hours worked in mining and manufacturing
HSTM	14647	2.3	X=57	Housing starts, multiples (thousand units)
HSTS	14646	2.2	X=96	Housing starts, single-detached (thousand units)
IH	13637		E=207	Investment expenditure by hospitals

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
IIB	D40230	3.3	X=61	Change in nonfarm business inventories
IIF	D40231		E=31	Change in farm inventories
IIF$	D40028		E=88	Change in farm inventories (current dollars)
IIG	D40229		E=221	Value of physical change in government inventories
IIG$	D40026		E=220	Value of physical change in government inventories (current dollars)
IME	D40225	3.1	X=62	Business investment in machinery and equipment
IMEGF	13625	See p. v	X=253	Federal investment in machinery and equipment
IMEGPM	13632	See p. v	X=254	Provincial-municipal investment in machinery and equipment
INRC	D40224	3.2	X=63	Business investment in non-residential construction
INRCGF	13624	12.4	X=249	Federal investment in non-residential construction
INRCGPM	13631	13.5	X=250	Provincial-municipal investment in construction (excluding schools)
INRCSM	13629	13.6	X=251	Municipal investment in school construction
IRC	D40223	2.1	X=64	Business investment in residential construction
KB$	14688	18.7	X=73	Replacement value of business capital stock
KDO	13780	1.6	X=65	Stock of consumer durables (excluding motor vehicles)

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
KIB	11636	3.6	X=66	Stock of nonfarm business inventories
KME	11309	3.4	X=67	Stock of machinery and equipment
KMEY	11315	3.7	X=68	Desired capital/output ratio for machinery and equipment
KMV	13781	1.5	X=69	Stock of consumer motor vehicles
KNRC	11314	3.5	X=70	Stock of non-residential construction
KNRCGF	13668	12.5	X=225	Stock of federal non-residential construction
KNRCSM	13672	13.8	X=201	Stock of elementary and secondary schools
KNRY	11311	3.8	X=71	Desired capital/output ratio for non-residential construction
LCB12	11890	20.2	X=74	Canadian corporate bonds and debentures held by U.S. residents
LDIPRV13	14684	20.5	X=269	Replacement value of the stock of direct and portfolio investment in Canada by other countries, including Canadian corporate retained earnings accruing to shareholders of other countries
LDIRV12	14683	20.4	X=268	Replacement value of the stock of U.S. direct investment in Canada, including Canadian corporate retained earnings accruing to U.S. direct investors
LEURO	13712		E=234	Amount of short-term Euro-dollar liabilities reported by banks

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				in eight European countries
LF2+LA2	FM143		E=310	U.S. labour force, including armed forces
LGB12	11855	20.1	X-76	Government of Canada, provincial and municipal bonds, direct and guaranteed, held by U.S. residents
LGB13	11856	20.6	X-77	Government of Canada, provincial and municipal bonds, direct and guaranteed, held by residents of other countries
LGBF	13506		E-95	End-of-quarter stock of Government of Canada direct market issues held by the general public and the chartered banks
LGBFG	B2401(9)		E=106	Government of Canada guaranteed debt
LGBFR1C	11903		E-100	End-of-quarter stock of Government of Canada direct market issues 0-3 years held by the resident general public and the chartered banks
LGBFR2C	11904		E-101	End-of-quarter stock of Government of Canada direct market issues 3-5 years held by the resident general public and the chartered banks
LGBFR3C	11905		E-102	End-of-quarter stock of Government of Canada direct market issues 5-10 years held by the resident general public and the chartered banks
LGBFR4C	11906		E=103	End-of-quarter stock of Government of Canada

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				direct market issues 10 years and over held by the resident general public and the chartered banks
LGBPM	13505	14.12	X=78	End-of-quarter stock of provincial and municipal bonds, direct and guaranteed (excluding provincial issues to Canada Pension Plan Investment Fund)
LGFCSB	B2406(9)	15.4	X=263	End-of-quarter stock of Canada Savings Bonds
LGFTB	13664	14.9	X=26	End-of-quarter stock of Government of Canada treasury bills (excluding Bank of Canada holdings)
LGFTBNR	13513		E=107	End-of-quarter stock of Government of Canada treasury bills held by non-residents
LONB	BS379		E=198	Total liabilities of chartered banks, net of deposit liabilities
LONTL	14677		E=109	Other liabilities of trust and loan companies
LPCV12	14686	20.3	X=72	Value of common and preferred Canadian corporate shares held by U.S. residents
LU2	FM124		E=311	U.S. unemployment
M	14637	4.27	X=81	Imports of goods and services
M$12	13730	4.23	X=82	Imports of goods and services from the United States (current dollars)
M$13	13731	4.25	X=83	Imports of goods and services from other

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				countries (current dollars)
MCM12	11729	4.3	X=84	Imports of crude materials from the United States (SITC 2, 4)
MDIV$12	3721	4.17	X=86	Dividend payments to the United States
MEF12	11730	4.2	X=99	Imports of energy fuels from the United States (SITC 3)
MFB12	11728	4.1	X=87	Imports of food and beverages from United States (SITC 0, 1)
MFS$12	D51537	4.19	X=89	Freight and shipping payments to the United States
MFS$13	13783	4.22	X=90	Freight and shipping payments to other countries
MG	14673	4.30	X=157	Imports of goods
MID$13	13784	4.20	X=91	Interest and dividend payments to other countries
MIH$	D50540		E=42	Imports. Inheritances and emigrants' funds to all countries
MINT$12	3717	4.16	X=92	Interest payments to the United States
MMF12	11731	4.4	X=93	Imports of manufactures (excluding transportation equipment) from the United States (SITC 5-8 [excluding transportation equipment])
MMIS12	13834		E=32	Imports of transportation equipment (excluding motor vehicles and parts) and unclassified commodity transactions (SITC 9) from the United States plus

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				miscellaneous adjusting entries
MMIS13	13835		E-33	Imports of transportation equipment (excluding motor vehicles and parts) and unclassified commodity transactions (SITC 9) from other countries plus miscellaneous adjusting entries
MMV12	11742	4.5	X-95	Imports of motor vehicles and parts from the United States
MMV13	11743		E=40	Imports of motor vehicles and parts from other countries
MNTE13	14632	4.6	X-88	Imports of goods (excluding transportation equipment and unclassified commodity transactions [SITC 9]) from other countries (SITC 0-8 [excluding transportation equipment])
MOS$12	14630		E-155	Imports of other services from the United States
MOS$13	14631		E-157	Imports of other services from other countries
MTM$2	FM114		E=235	Total time deposits in member banks of the U.S. federal reserve system
MTR$12	D51531	4.18	X=101	Travel payments to the United States
MTR$13	13790	4.21	X=102	Travel payments to other countries
MTRP$	D40053		E=30	Transfer payments from Canadian residents to persons abroad
N2	FM205		E=179	Total U.S. population
NBIRTHS	13813		E-294	Births

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
NC	11835	5.2	X=103	Paid employees in construction
NCL	11247	11.4	X=104	Claimants on the Unemployment Insurance Fund
NDEATHS	13814		E=306	Deaths
NE	11824	5.10	X=105	Total employed persons (excluding armed forces)
NEMS	13816	5.7	X=185	Emigrants
NEMPS	11246	11.6	X=106	Employed contributors to the Unemployment Insurance Fund
NEUPB	11846	See p. v	X=128	Unpaid employees in non-farm business
NEUPF	14602		E=35	Unpaid farm workers
NFP	13723		E=34	Paid farm workers
NGPAF	11922	12.1	X=107	Federal employment in public administration and defence
NGPAPM	11962	13.1	X=108	Provincial-municipal employment in public administration
NHH	3054		E=286	Number of families in Canada
NIMS	13815	5.6	X=176	Immigrants
NINS	11257	11.3	X=109	Enrollment in the Unemployment Insurance Fund
NIOS	11829		E=36	Paid workers in non-commercial institutions (excluding schools)
NIS	11927	13.3	X=110	Employment in elementary and secondary schools under municipal control
NL	11141	5.5	X=111	Labour force
NMMOB	13851	5.1	X=112	Paid employees in mining, manufacturing and other business
NMMOBD	14653	5.12	X=215	Desired level of employ-

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				ment in mining, manufacturing and other business
NOAPR	13519		E=122	Old age pension recipients
NPOP	13817	5.9	X=224	Noninstitutional population 14 years of age and over
NPOPS	11931		E=296	Students enrolled in elementary and secondary schools
NPOPSS	11396		E=285	Total population 14 years of age and over attending school
NPOPT	13812	5.8	X=214	Total population (beginning-of-quarter figure)
NT	11544	9.7	X=114	Tax returns filed
NT1C	11545	9.10	X=115	Tax returns filed, income class 1
NT2C	11546	9.11	X=116	Tax returns filed, income class 2
NT3C	11547	9.12	X=117	Tax returns filed, income class 3
NT4C	11548	9.13	X=118	Tax returns filed, income class 4
NTNW1C	13569	9.26	X=123	Nonwage earners tax returns filed, income class 1
NTNW2C	13570	9.27	X=124	Nonwage earners tax returns filed, income class 2
NTNW3C	13571	9.28	X=125	Nonwage earners tax returns filed, income class 3
NTNW4C	13572	9.29	X=126	Nonwage earners tax returns filed, income class 4
NTW1C	13565	9.22	X=119	Wage earners tax returns filed, income class 1

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
NTW2C	13566	9.23	X=120	Wage earners tax returns filed, income class 2
NTW3C	13567	9.24	X=121	Wage earners tax returns filed, income class 3
NTW4C	13568	9.25	X=122	Wage earners tax returns filed, income class 4
NU	11063	5.11	X=127	Total unemployed persons
NX	11848		E=37	Employment residual
ODG2	FM294		E=66	U.S. military prime contracts for defence goods
PC2	FM131		E=263	Implicit price deflator for U.S. consumer expenditure on durables
PCDO	13799	7.4	X=129	Price of other consumer durables
PCMV	13791	7.3 (See p.v)	X=131	Price of consumer motor vehicles
PCNDSD	13792	7.1	X=130	Price of consumer non-durables and semi-durables
PCON2	FM132		E=312	Implicit price deflator for total U.S. consumption expenditure
PCPI	14642	7.20	X=132	The Consumer Price Index
PCPICE	11819	18.2	X=244	Expected annual rate of change in the Consumer Price Index
PCS	13793	7.2	X=133	Price of consumer services
PCSMVOD	14654	7.23	X=100	Implicit price deflator for imputed consumer services from the stocks of motor vehicles and of other consumer durables
PEEX2	FM206		E=283	Implicit price deflator

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				for U.S. exports
PEGF2	FM275		E=281	Implicit price deflator for U.S. federal purchases of goods and services
PFX	13702	21.4	X=134	Spot exchange rate (Canadian dollars per U.S. dollar)
PFXF	13703	21.3	X=135	90-day forward exchange rate (Canadian dollars per U.S. dollar)
PGCNWG	13500	7.17	X=137	Price deflator for government current nonwage expenditure
PGNE	13794	7.21	X=136	Price deflator for gross national expenditure
PGPP	11689	7.22	X=138	Price deflator for gross private business product
PI2	FM168		E=282	Implicit price deflator for U.S. stock of inventories
PIH	13640		E=226	Price deflator for hospital investment
PIME	13796	7.5	X=140	Price deflator for business investment in machinery and equipment
PIMEG	13639	7.19	X=255	Price deflator for government investment in machinery and equipment
PINRC	13797	7.7	X=141	Price deflator for business investment in non-residential construction
PINRCG	13638	7.18	X=252	Price deflator for government investment in non-residential construction

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
PIRC	13798	7.6	X=242	Price deflator for private investment in residential construction
PKIB	13811	7.8	X=243	Price of the nonfarm business inventory stock
PL2	FM152		E=297	Employee compensation rate in U.S. nonfarm private domestic business
PLGF1C	11913	14.2	X=142	Ratio of market value to book value of Government of Canada direct market issues, maturity class 1
PLGF2C	11914	14.3	X=143	Ratio of market value to book value of Government of Canada direct market issues, maturity class 2
PLGF3C	11915	14.4	X=144	Ratio of market value to book value of Government of Canada direct market issues, maturity class 3
PLGF4C	11916	14.5	X=145	Ratio of market value to book value of Government of Canada direct market issues, maturity class 4
PLGI	13511	14.10	X=146	Market valuation ratio for Government of Canada, provincial and municipal bonds held by Canadian residents
PMCM12	12531	7.14	X=59	Price index for imports of crude materials from the United States (SITC 2, 4)
PMCM13	11738		E=49	Price index for imports of crude materials from other countries (SITC 2, 4)
PMEF12	12530	7.15	X=60	Price index for imports of energy fuels from the United States (SITC 3)

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
PMEF13	11739		E=250	Price index for imports of energy fuels from other countries (SITC 3)
PMFB12	12528	7.13	X=58	Price index for imports of food and beverages from the United States (SITC 0, 1)
PMFB13	11737		E=251	Price index for imports of food and beverages from other countries (SITC 0, 1)
PMMF12	11741	7.16	X=94	Price index for imports of manufactures (excluding transport-ation equipment) from the United States (SITC 5-8 [excluding transportation equipment])
PMMF13	11740		E=278	Price index for imports of manufactures (excluding transport-ation equipment) from other countries (SITC 5-8 [excluding trans-portation equipment])
PMMIS12	13831		E=45	Price index for imports of transportation equipment (excluding motor vehicles and parts) and unclassified commodity transactions (SITC 9) from the United States plus miscellaneous adjust-ing entries
PMMIS13	13831		E=46	Price index for imports of transportation equipment (excluding motor vehicles and parts) and unclassified commodity transactions (SITC 9) from other countries plus miscel-laneous adjusting entries
PMMV12	12305		E=47	Price index for imports

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				of motor vehicles and parts from the United States
PMMV13	12305		E=48	Price index for imports of motor vehicles and parts from other countries
PMNTE13	14627		E 28	Price index for imports of goods (excluding transportation equipment, and unclassified commodity transactions [SITC 9]) from other countries (SITC 0-8 [excluding transportation equipment])
PMS	13848		E=51	Price index for imports of services
PNRM	14669	7.10	X=147	Price index for non-residential construction materials
POBE2	FM130		E=268	Implicit price deflator for U.S. gross national product (XOBE$2)
PPD2	FM133		E=97	Implicit price deflator for U.S. expenditure on producers durables (EPD2)
PPS2	FM141		E=94	Implicit price deflator for U.S. expenditure on producers structures (EPS2)
PRM	14670	7.9	X=148	Price index for residential construction materials
PWXG	9575		E=271	Price index for world exports of goods
PXB2	FM129		E=303	Implicit price deflator for U.S. gross private domestic business product (XB2)
PXBNF2	FM156		E=269	Implicit price deflator for U.S. nonfarm business product and household output

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
PXFP	12402		E=39	Price index for exports of forest products
PXMIS12	13840		E=79	Price index for exports of uranium and aircraft and parts to the United States plus miscellaneous adjusting entries
PXMIS13	13840		E=82	Price index for exports of uranium and aircraft and parts to other countries plus miscellaneous adjusting entries
PXMV12	12524	See p. v	X=149	Price index for exports of motor vehicles and parts to the United States
PXNMV12	11775	7.11	X=150	Price index for exports of goods (excluding uranium, aircraft and parts, and motor vehicles and parts) to the United States
PXNW13	11766	7.12	X=151	Price index for exports of goods (excluding wheat, uranium, and aircraft and parts) to other countries
PXS	13845		E=83	Price index for exports of services
PXW13	12407		E=53	Price index for exports of wheat to other countries
PYFA	13520		E=86	Price deflator for accrued farm income
Q1	11073		E=145	First-quarter seasonal dummy
Q2	11074		E=146	Second-quarter seasonal dummy
Q3	11075		E=147	Third-quarter seasonal dummy

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
Q4	11076		E-148	Fourth-quarter seasonal dummy
QAUTO	11723		E-260	Variable to reflect increased rationalization of production under the terms of the Canadian-U.S. auto pact. Zero prior to 1Q63 then rises (changing in 4Q of each year) to 3.56 in 4Q68
QAUTST	11745		E-121	Variable to reflect U.S. auto strikes. Equals -1.0 in 4Q64 and 4Q67, +1.0 in 1Q65, .5 in 3Q67 and 1Q68, zero elsewhere
QBROKE	13904		E-191	Variable to reflect reaction to the bankruptcy of Atlantic Acceptance Corporation. Equals 1.0 from 1Q65 to 4Q65, zero elsewhere
QC1	11982		E-192	First-quarter constrained dummy variable, equals Q1 minus Q4
QC2	11983		E-193	Second-quarter constrained dummy variable, equals Q2 minus Q4
QC3	11984		E-194	Third-quarter constrained dummy variable, equals Q3 minus Q4
QCRISIS	14678		E-196	Variable to capture effects of exchange crises on short rates. Equals 1.0 in 3Q62, 1Q68 and 2Q68, zero elsewhere
QDB	BS220		E-195	Bank deposit variable. Equals 1.0 from 1Q62 forward, zero elsewhere
QDBA	14680		E-315	Variable to reflect introduction of Bank

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				Act changes in 3Q67 removing interest rate ceilings on bank loans. Equals 1.0 from 3Q67 on, zero elsewhere
QDBAD	14609		E=77	Variable in wage equation. Equals 1.0 from 1Q52 to 1Q61, zero elsewhere
QDCARS	13673		E=288	Variable to account for the effect of the Canadian-U.S. auto pact on customs duties. Equals 1.0 from 1Q65 forward, zero elsewhere
QDCENT	13679		E=319	Variable to account for irregular observations in provincial-municipal nonwage current expenditure. Equals 1.0 from 3Q66 to 2Q67, zero elsewhere
QDGOOD	14610		E=76	Variable in wage equation. Equals 1.0 from 2Q61 forward, zero elsewhere
QDKEN	13675		E=292	Variable to capture effects of Kennedy Round trade concessions on customs duties. Equals 1.0 from 1Q68 to 2Q69, 2.5 from 3Q69 forward, zero elsewhere
QDNINS	13908		E=181	Variable to reflect amendment of the

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				Unemployment Insurance Act increasing its coverage. Equals 1.0 from 2Q67 forward, zero elsewhere
QDNUSA	11758		E=280	Variable to reflect increased duty-free allowances for tourists to countries other than the United States. Equals 1.0 from 4Q58 to 2Q62, zero elsewhere
QDSEAS	13678		E=318	Variable to account for change in quarterly pattern in provincial-municipal nonwage current expenditure. Equals 1.0 from 1Q65 forward, zero elsewhere
QDTCCF1	13651		E=241	Variable to reflect changing corporation tax practices. Equals 1.0 from 1Q52 to 4Q63, zero elsewhere
QDTCCF2	13652		E=242	Variable to reflect changing corporation tax practices. Equals 1.0 from 1Q64 to 4Q64, zero elsewhere
QDTCCF3	13653		E=243	Variable to reflect changing corporation tax practices. Equals 1.0 from 1Q65 to 4Q65, zero elsewhere
QDTCCF4	13654		E=244	Variable to reflect changing corporation tax practices. Equals 1.0 from 1Q66 to 4Q67, zero elsewhere
QDTCCF5	13655		E=245	Variable to reflect changing corporation tax practices. Equals 1.0 from 1Q68 to 4Q68, zero elsewhere

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
QDTCCF6	13656		E-246	Variable to reflect changing corporation tax practices. Equals 1.0 from 1Q69 to 4Q69, zero elsewhere
QDTCCF7	13657		E=247	Variable to reflect changing corporation tax practices. Equals 1.0 from 1Q70 to 4Q70, zero elsewhere
QDTCCF8	13658		E-248	Variable to reflect changing corporation tax practices. Equals 1.0 from 1Q71 forward, zero elsewhere
QDTCCF9	13659		E=249	Variable to reflect changing corporation tax practices. Equals 1.0 in 3Q68 and 1Q69, -1.0 in 2Q68 and 4Q68, zero elsewhere
QDTIEXF	13900		E-166	Variable to reflect the period when motor vehicles were exigible. Equals 1.0 from 1Q55 to 2Q61, zero elsewhere
QDUIF	13907		E-180	Variable to reflect structural changes in the operation of the Unemployment Insurance Fund. Equals 1.0 from 3Q68 forward, zero elsewhere
QDUSA	11759		E-1	Variable to reflect decreased duty-free allowances for tourists to the United States. Equals 1.0 from 3Q62 forward, zero elsewhere
QDXINC	13676		E=293	Variable to capture effects of duty remission programme (1964) on customs

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				duties. Equals 1.0 from 1Q64 to 4Q64, zero elsewhere
QEUROPM	14604		E=205	Variable to account for European borrowing by provincial and municipal governments in mid-1968. Equals .33 in 2Q68, 1.0 in 3Q68, zero elsewhere
QEXPO	11780		E=3	Variable to reflect effects of Expo67. Equals 1.0 from 2Q67 to 4Q67, zero elsewhere
QFLEX	13902		E=188	Variable to span period of flexible exchange rates, stopping when government announced intention of achieving higher PFX. Equals 1.0 from 1Q52 to 2Q61, zero elsewhere
QLOBO	13903		E=185	Variable to reflect exchange rate uncertainty and federal government policy announcements discouraging foreign borrowing. Equals 1.0 from 3Q60 to 3Q62, zero elsewhere
QMEF12	14623		E=284	Variable to reflect change in seasonal pattern of oil imports due to increased relative importance of refining capacity in the Maritimes. Equals 1.0 in 1Q of each year from 1964 on, zero elsewhere
QMIDEAST	14645		E=299	Variable to reflect foreign purchases of Canadian oil shares in response to closing of Suez Canal. Equals 1.0 from 3Q67 to 4Q67, zero elsewhere
QNHA	14671		E=321	Variable to represent the period of National

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				Housing Act rate ceilings. Equals 1.0 from 1Q54 to 3Q67, zero elsewhere
QOIL	14651		E=289	Variable to account for large capital inflow from Royal Dutch Shell to finance purchase of Canadian Oil Companies by Shell Investments. Equals 1.0 in 4Q62, zero elsewhere
QSALE	14611		E=178	Variable to reflect an identified sale of a large U.S. subsidiary by a Canadian corporation. Equals 1.0 in 3Q66, zero elsewhere
QSEA	11779		E=91	Variable to reflect completion of St. Lawrence seaway. Equals 1.0 from 3Q59 forward, zero elsewhere
QSTRIKE	14685		E=212	Variable to represent strikes anticipated in steel, nickel and copper. Equals 20.0 in 4Q67, 60.0 in 1Q68, 55.0 in 2Q68, 10.0 in 3Q68, -20.0 in 4Q68, zero elsewhere
QTHERM	11724		E=50	Variable to reflect completion of gas pipelines and increased thermal capacity in Ontario. Equals 1.0 from 1Q65 forward, zero elsewhere
QTIME	14612		E=6	Time trend. Equals 1.0 in 1Q50, 2.0 in 2Q50, etc.
QTSTEP	13648		E=59	Step time trend. Equals 1.0 in each quarter of 1950, 2.0 in each quarter of 1951, etc.
QUSTAX	14644		E=298	Variable to represent portfolio changes in response to announce-

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				ment of U.S. tax proposals unfavourable to U.S. mutual funds holding Canadian securities. Equals .33 from 3Q61 to 3Q62, .89 in 4Q62, 2.3 from 1Q63 to 4Q65, zero elsewhere
QXDIV	14662		E=309	Variable to account for identified dividend receipt of $60 million from a U.K. subsidiary in 4Q62. Equals 1.0 in 4Q62, zero elsewhere
RABEL	BS625	16.11	X=152	Earning liquid asset ratio of chartered banks
RABELD	BS626		E=184	Earning liquid asset ratio of chartered banks, trend-through-troughs using Lagrangian polynomial
RBCR	BS630	16.4	X=17	Required cash reserve ratio of chartered banks
RCB2	FM91		E=190	U.S. corporate bond rate
RCD2	FM109		E=219	U.S. certificate of deposit rate
RCME	14616	3.9	X=53	Imputed rental price for machinery and equipment (per cent per quarter)
RCNR	14617	3.10	X=54	Imputed rental price for non-residential construction (per cent per quarter)
RDC	11006		E=123	Rate of dividend tax credit
RDP2	FM126		E=304	U.S. dividend/price ratio
REUR	11391		E=202	90-day Euro-dollar rate
RFAQ	13602		E=124	Rate of federal personal

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				income tax abatement to Quebec
RFAXQ	13601		E=125	Weighted average rate of federal personal income tax abatement to all provinces except Quebec
RHO	11817	18.6	X=154	Approximation to the nominal supply price of capital
RHO2	14613		E=52	Approximation to the U.S. nominal supply price of capital

$$RHO2 = RHOR2 + JW\,[J4P\,(PXB2)]$$

t	JW [J4P (PXB2)]
w =	0 before 1Q65
0	.286
-1	.238
-2	.190
-3	.143
-4	.095
-5	.048
Sum w	1.000

RHOR	13800	18.5	X=155	Approximation to the real supply price of capital
RHOR2	14614		E=233	Approximation to the U.S. real supply price of capital

$$RHOR2 = .5\,(RCB2 - JW\,[J4P\,(PXB2)]) + .5\,[J4A\,(YPCT\$2)]\,[RDP2]\,/\,YDV\$2$$

t	JW [J4P (PXB2)]
w =	0 before 1Q65
0	.286
-1	.238
-2	.190
-3	.143
-4	.095
-5	.048
Sum w	1.000

RL	13518	17.2	X=156	Average yield on Government of Canada bonds, 10 years and over

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
RLUK	14605		E=206	U.K. interest rate on long-term securities
RMC	1096(8)	17.8	X=153	Conventional mortgage rate
RML	13517	17.3	X=246	Average yield on Government of Canada bonds, 5-10 years
RMS	13516	17.4	X=247	Average yield on Government of Canada bonds, 3-5 years
RNHA	BS245		E=154	Interest rate ceiling on NHA mortgages
RNPT	BS205(8)	17.5	X=158	Rate on nonpersonal term and notice deposits in chartered banks
RNU	14691	5.13	X=192	The unemployment rate
RPD	14664		E=314	Average rate on personal deposits in chartered banks
RS	13515	17.1	X=159	Average yield on Government of Canada bonds, 1-3 years
RSTL	BS202		E=323	Rate on trust and loan company chequable accounts
RSWP	BS204(8)	17.6	X=160	Rate on swapped deposits in chartered banks
RTB2	FM87		E=54	U.S. treasury bill rate
RTCA	11987		E=174	Weighted marginal rate of corporation income tax
RTCAF	13546		E=175	Weighted marginal rate of federal corporation income tax
RTISFME	11620		E=165	Rate of manufacturers sales tax applicable to production machinery and equipment
RTISFR	11621		E=164	Rate of manufacturers sales tax applicable

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				to construction materials and building supplies
RTISFS	11025		E=163	Basic rate of manufacturers sales tax applicable to expenditure on consumer durables and non-durables, and non-production machinery and equipment
RTISPM	11996		E=168	Weighted average rate of provincial retail sales tax
RTPYF1C	11019		E=126	Weighted average rate of federal income tax payable by taxpayers with assessed incomes between $0 and $3,000
RTPYF2C	11020		E 127	Weighted average rate of federal income tax payable by taxpayers with assessed incomes between $3,000 and $5,000
RTPYF3C	11021		E=128	Weighted average rate of federal income tax payable by taxpayers with assessed incomes between $5,000 and $10,000
RTPYF4C	11022		E=129	Weighted average rate of federal income tax payable by taxpayers with assessed incomes exceeding $10,000
RTPYFB1C	13595		E=130	Weighted average rate of basic tax payable by taxpayers with assessed incomes between $0 and $3,000
RTPYFB2C	13596		E=131	Weighted average rate of basic tax payable by taxpayers with assessed incomes between $3,000 and $5,000
RTPYFB3C	13597		E=132	Weighted average rate of basic tax payable by

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				taxpayers with assessed incomes between $5,000 and $10,000
RTPYFB4C	13598		E=133	Weighted average rate of basic tax payable by taxpayers with assessed incomes exceeding $10,000
RTPYPQ	13600		E=134	Weighted average rate of provincial income tax payable by Quebec residents
RTPYPXQ	13599		E=135	Weighted average rate of provincial income tax payable by residents of all provinces except Quebec
RTTL	BS209	17.7	X=264	Rate on one-year deposits in trust companies
RVB12	3761	20.9	X=161	Return to U.S. residents from Canadian business assets (percentage of total return)
RVB13	3762	20.10	X=162	Return to residents of other countries from Canadian business assets (percentage of total return)
SA$2	FM160		E=300	U.S. personal savings plus corporate retained earnings net of taxes
SHM	14649	2.5	X=163	Stock of multiple dwellings (thousand units)
SHS	14648	2.4	X=139	Stock of single-detached dwellings (thousand units)
TANW	13551	9.6	X=164	Personal income tax accruals on nonwage income
TAW	13550	9.5	X=165	Personal income tax

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				accruals on wage income
TCA	D40064	9.33	X=166	Corporation income tax accruals
TCAT	D40065	9.35	X=167	Federal corporation income tax accruals
TCAGBE	11964		E=238	Corporation income taxes on government business enterprises
TCAPLMT	11626		E=176	Provincial mining and logging taxes
TCAPM	D40067	9.36	X=168	Provincial corporation income tax accruals
TCCF	D40066	14.1	X=169	Federal corporation income tax collections
TCPPF	D40062		E=216	Contributions to Canada Pension Plan
TICUSF	2157	10.2	X=170	Customs duties
TIEXF	11969	10.3	X=171	Excise taxes and duties (excluding manufacturers sales tax)
TIGASPM	11971	10.5	X=172	Gasoline tax
TILGS	D40009	10.8	X=49	Indirect taxes less subsidies
TIMVPM	11972	10.6	X=173	Motor vehicle licences and permits, business
TIOF	11979		E=55	Other federal indirect taxes
TIOPM	11994		E=56	Other provincial-municipal indirect taxes
TISF	11270	10.1	X=174	Manufacturers sales tax
TISPM	11970	10.4	X=175	Retail sales tax
TOPF	11978		E=57	Other federal personal direct taxes
TOPPM	11993		E=58	Other provincial-municipal personal

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				direct taxes
TPO	11024	9.2	X-178	Personal income tax collections not withheld at source
TPS	11023	9.1	X=179	Personal income tax collections withheld at source
TPYF	11976	9.4	X=180	Federal personal income tax collections
TPYPM	11977	9.3	X=181	Provincial personal income tax collections
TQPPPM	D40063		E-222	Contributions to Quebec Pension Plan
TRFPR	D40075		E=214	Transfers from persons to federal government
TRHPMPR	11975	9.30	X=258	Hospital and medical care insurance premiums
TRHPR	D40078		E-215	Transfers from persons to hospitals
TRMVPMPR	11973	9.31	X=177	Motor vehicle licences and permits, persons
TROPMPR	13641		E=213	Other transfers from persons to provincial and municipal governments
TRSIGPR	13647		E-232	Employer and employee contributions to social insurance and government pension plans (excluding unemployment insurance contributions and payments to Canada Pension Plan and Quebec Pension Plan)
TUIRF	D1236(7)	11.1	X-228	Unemployment Insurance Fund revenue
TWF	D40069	10.7	X-182	Non-resident withholding tax
UBAL	11900	21.7	X=184	Net balance of payments

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				with all countries on current and long-term capital account (million Canadian dollars)
UBAL12	11899	21.6	X=183	Net balance of payments with the United States on current and long-term capital account (million Canadian dollars)
UGNWNH	14635	14.13	X=98	Government nonwage expenditure (excluding current expenditure by hospitals) (1961 dollars)
UGPP	13820	3.13	X=189	Gross private business product (excluding agriculture and non-commercial services) (1961 dollars)
UGPPA	13854	3.14	X=187	UGPP adjusted to remove unintended inventory changes
UGPPAMP	14618	3.11	X=23	Preferred output according to vintage stock of machinery and equipment
UGPPANP	14619	3.12	X=50	Preferred output according to vintage stock of non-residential construction
UGPPD	13849	3.15	X=190	Desired output based on production function with actual capital stock, average employment rate and trended weekly hours
UGPPS	13853	3.16	X=186	Aggregate supply based on production function with actual factor inputs
UKRMVNC	13544	9.32	X=245	Stock of noncommerical registered motor vehicles (million vehicles)
ULS	13713	21.9	X=85	Net international short-term liabilities

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				outstanding between Canada and the rest of the world (+ if net liability is of Canada to the rest of the world) (million U.S. dollars)
URES	11806(9)	21.8	X=188	Canadian foreign exchange reserves, including gold, U.S. dollars, other convertible currencies and reserve position in the IMF (million U.S. dollars)
V	11815	18.4	X=197	Market value of private sector wealth
VCN$2	FM138		E=186	Net worth of U.S. households at beginning of quarter (trillion dollars)
VKB	11800	18.1	X=191	Market value of the end-of-quarter stock of total business fixed capital and inventories in Canada
VLGB11	13512	18.3	X=196	Market value of resident-held Government of Canada, provincial and municipal bonds
WQC	14640	6.2	X=198	Quarterly wage rate in construction
WQF	13724		E=81	Quarterly wage rate in farming
WQGPAF	11926	12.2	X=200	Quarterly wage rate in federal public administration and defence
WQGPAPM	11963	13.2	X=202	Quarterly wage rate in provincial-municipal public administration
WQIOS	13725		E=60	Quarterly wage rate in noncommercial

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				institutions (excluding schools)
WQISM	11929	See p. v	X=203	Quarterly wage rate in elementary and secondary schools
WQMMOB	13852	6.1	X=199	Quarterly wage rate in mining, manufacturing and other business
X	D40233	4.28	X=204	Exports of goods and services
X$12	13728	4.24	X=205	Exports of goods and services to the United States (current dollars)
X$13	13729	4.26	X=206	Exports of goods and services to other countries (current dollars)
XB2	FM3		E=264	U.S. gross private domestic business product (1958 dollars)
XBAL$	14692	4.31	X=193	Net balance on current account, balance of payments basis (current dollars)
XBC2	FM26		E=265	Production capacity of U.S. producers durables
XBCF2	FM297		E=287	Percentage deviation of European industrial production from trend
XFS$12	D51512	4.12	X=207	Freight and shipping receipts from the United States
XFS$13	13801	4.15	X=208	Freight and shipping receipts from other countries
XG	D40234	4.29	X=97	Exports of goods
XID$12	D51508	4.10	X=209	Interest and dividend receipts from the United States

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
XID$13	13802	4.13	X=210	Interest and dividend receipts from other countries
XIH$	D50515		E=44	Exports. Inheritances and immigrants' funds from all countries
XMIS12	13838		E=78	Exports of uranium, and aircraft and parts to the United States plus miscellaneous adjusting entries
XMIS13	13839		E 61	Exports of uranium, and aircraft and parts to other countries plus miscellaneous adjusting entries
XMV12	11771	4.7	X=211	Exports of motor vehicles and parts to the United States
XNMV12	11769	4.8	X=212	Exports of goods (excluding uranium, aircraft and parts, and motor vehicles and parts) to the United States
XNW13	11761	4.9	X=213	Exports of goods (excluding wheat, uranium, and aircraft and parts) to other countries
XOBE$2	FM48		E=266	U.S. gross national product
XOS$12	14628		E 156	Exports of other services to the United States
XOS$13	14629		E 158	Exports of other services to other countries
XTR$12	D51506	4.11	X=216	Travel receipts from the United States
XTR$13	13806	4.14	X=217	Travel receipts from other countries
XTRP$	D40041		E=38	Transfer payments to Canadian residents from persons abroad
XVOL$	14622		E=270	World trade (excluding

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				U.S. and Canadian imports) (million U.S. dollars)
XW13	11763		E=62	Exports of wheat to other countries
YC	D40002	8.1	X=218	Corporate profits before tax
YCGBE	14687		E=322	Gross profits of government business enterprises
YCR	D40176	8.10	X=219	Retained corporate profits
YCR$2	FM41		E=302	U.S. retained corporate profits
YCT	11647	9.34	X=220	Taxable corporate profits
YDIV11	2406	8.2	X=221	Dividends paid to Canadian residents by Canadian corporations
YDIVF	14638	8.3	X=222	Dividends (before withholding tax) paid to foreign shareholders by Canadian corporations
YDP	D40057	8.9	X=8	Disposable personal income
YDV$2	FM62		E=231	U.S. corporate dividends
YDW	11747	8.6	X=223	Disposable wage income
YF	D40034		E=63	Farm cash income
YFA	D40005		E=64	Accrued farm income
YGIF	13536		E=65	Federal investment income
YGIH	D40083		E=229	Hospital investment income
YGIPM	11992		E=223	Provincial-municipal investment income
YGNE	D40012	8.4	X=226	Gross national expenditure
YGPP	11688	8.5	X=227	Gross private business

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				product
YII$2	FM167		E=230	U.S. interest income
YIVA	D40007		E=239	Inventory valuation adjustment
YKGP	14690	8.12	X=80	Capital gains, realized and accrued, on equities and bonds
YMISC	13819		E=69	Miscellaneous personal nonwage income
YMISCP	14633		E=209	Miscellaneous personal investment income
YNFNC	D40006	See p. v	X=229	Net income of non-farm unincorporated business, including rent
YNWAS	13560	9.9	X=230	Assessed nonwage income
YNWAS1C	13561	9.18	X=231	Assessed nonwage income, income class 1
YNWAS2C	13562	9.19	X=232	Assessed nonwage income, income class 2
YNWAS3C	13563	9.20	X=233	Assessed nonwage income, income class 3
YNWAS4C	13564	9.21	X=234	Assessed nonwage income, income class 4
YP	D40042	8.8	X=7	Personal income
YPCC$2	FM61		E=136	Cash flow of U.S. corporations after taxes
YPCCB	D40037		E=71	Charitable contributions by corporations
YPCT$2	FM60		E=305	U.S. net corporate profits after taxes
YPDNWP	14689	8.11	X=79	Permanent disposable nonwage personal income
YRES	11528	8.7	X=241	Simulation residual defined as zero throughout sample period

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
YTOTPM	13677	13.7	X-248	Total provincial-municipal revenue (national accounts basis)
YW	D40000	6.3	X-235	Wage bill
YWAS	13555	9.8	X-236	Assessed wage income
YWAS1C	13556	9.14	X-237	Assessed wage income, income class 1
YWAS2C	13557	9.15	X-238	Assessed wage income, income class 2
YWAS3C	13558	9.16	X-239	Assessed wage income, income class 3
YWAS4C	13559	9.17	X-240	Assessed wage income, income class 4
YWSLP	11825		E-150	Supplementary labour income, private sector
YWX	13726		E-72	Wage bill residual
ZDEPREC	14643		E-301	Variable used to capture realignment of foreign direct investment in Canada due to depreciation incentives given in the June 1963 budget to firms with a minimum of 25% Canadian ownership. Equals 1.0 from 2Q63 to 4Q65, zero elsewhere
ZEUROF	14603		E-204	Variable to account for federal borrowing of Deutsche Marks in 2Q68. Equals 175.0 in 2Q68, zero elsewhere
ZEXYNW1C	13583		E-137	Average exemption and deduction for taxpayer earning non-wage income, income class 1 (dollars)
ZEXYNW2C	13584		E-138	Average exemption and deduction for taxpayer earning non-

Mnemonic	RDX2 Tape No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
				wage income, income class 2 (dollars)
ZEXYNW3C	13585		E=139	Average exemption and deduction for taxpayer earning non-wage income, income class 3 (dollars)
ZEXYNW4C	13586		E=140	Average exemption and deduction for taxpayer earning non-wage income, income class 4 (dollars)
ZEXYW1C	13579		E=141	Average exemption and deduction for taxpayer earning wage income, income class 1 (dollars)
ZEXYW2C	13580		E=142	Average exemption and deduction for taxpayer earning wage income, income class 2 (dollars)
ZEXYW3C	13581		E=143	Average exemption and deduction for taxpayer earning wage income, income class 3 (dollars)
ZEXYW4C	13582		E=144	Average exemption and deduction for taxpayer earning wage income, income class 4 (dollars)
ZFXOF	13701		E=74	Official excess demand for 90-day forward exchange (million U.S. dollars)
ZRBSR	BS629		E=161	Required secondary reserve ratio of chartered banks
ZRESD	13705		E=73	Desired or target level of foreign exchange reserves (million U.S. dollars)
ZTR	13711		E=75	Trading strategy variable, +1.0 when PFX moves up through par,

DX2 be No.	Eq. No. For Endogenous Variables	Simulator Coding No.	Title
			-1.0 when PFX moves down through par
320		E-197	Winter works variable. Equals 1.0 from 3Q63 to 2Q66, zero elsewhere

APPENDIX B

STRUCTURAL EQUATIONS OF RDX2

This appendix is in two parts: first, a summary table containing the titles of Sectors 1 to 21 of the model and the number of behavioural and technical equations in each sector, and second, the 258 equations comprising RDX2 grouped by sector (and sub-sector in the case of Sector 9). The equations are arranged in numerical order within each sector.

Two sectors consist entirely of behavioural equations. The other sectors contain both stochastic behavioural equations and non-stochastic technical relationships, with the behavioural equations appearing first. In order to reduce the number of technical relationships, we have substituted out most of the less complicated ones. In some cases, this makes the behavioural equations somewhat more difficult to read, but decreases the number of variables to be kept in mind.

Each equation is headed by its mnemonic and a description of the equation. In the case of stochastic equations, a record of the method and period of estimation appears immediately under the description. Most of these equations are estimated by ordinary least squares (OLS), but when an equation has a high first-order autocorrelation of residuals it has been re-estimated

by the Hildreth-Lu procedure [1] to check for parameter stability under first-order transformation. In some cases the Hildreth-Lu result is reported instead of that obtained from the original OLS specification. Thus the estimation method is shown as OLS-HL, and the chosen coefficient of first-order autocorrelation (car) is recorded in the line of statistics below the equation. The statistics reported at the end of every behavioural equation always include the standard error of the estimate (see), the coefficient of determination corrected for degrees of freedom (RB2), the Durbin-Watson statistic (dw), and sometimes the coefficient of variation (cov) measured as a percentage. The absolute value of the t-statistic is shown in brackets under the coefficient. (There is a problem in the interpretation of the RB2 statistic for regressions without a constant term. The sum of the explained variance, about the mean, and the residual variance may be greater than the total variance of the dependent variable. Two definitions of a 'pseudo' R2 suggest themselves for use in these circumstances: one equal to the explained variance over the total variance and the other equal to 1.0 minus the ratio of the residual variance to the total variance. We have calculated both measures for our regressions without constant terms, and have found them in all cases to be the same to at least four decimal places.)

[1] Hildreth, Clifford and John Y. Lu: "Demand Relations with Autocorrelated Disturbances." East Lansing, Michigan, Michigan State University, 1960. 76 p. (Michigan Agricultural Experiment Station Technical Bulletin 276.)

We make full use in the equations of the 'J operators' explained in Appendix A. The JW operator is used for distributed lags. The weights for each JW series are reported below the equation in which the operator is used. If the weights are specified a priori, the estimated coefficient on the weighted variable and the associated t-statistic are reported in the equation. If the JW weights are estimated subject to the constraint that they lie on a polynomial of specified order, each weight shown below the equation has a bracketed t-statistic on its right. In the estimation of these constrained lag distributions we have used a modified version of the Almon technique.

The Almon variables used in a regression are indicated by a list of numbered Zs shown under the column of t-statistics of the estimated weights. From this list one can obtain all the necessary information about the degree of the polynomial and any constraint that may have been placed on it. The modified Almon technique we employ allows us to change the degree of the polynomial or to impose other more specific constraints simply by using or not using certain of the Almon variables in the reqression.

The degree of the polynomial is indicated by the last Z of those reported. For example, if a fourth degree polynomial is used a Z4 appears as the last Z in the list; similarly for a second degree polynomial the last Z reported would be Z2. Dropping the first Almon variable, ZO, from the regression list constrains the polynomial to pass through zero at some specified end point in the distribution. (This constraint is automatically imposed in our programme, hence ZO will never appear in any

of our Z lists.) If Z1 is dropped a further constraint is imposed - the polynomial has a zero slope as well as a zero value at the end point of the distribution. Hence, an Almon list such as Z2 Z3 Z4 appearing with the estimated lag weights indicates that the weights have been constrained to lie on a fourth degree polynomial that passes through zero and, as well, has a zero slope in the quarter immediately prior to the earliest nonzero value shown in the related table of weights.

If the polynomial is constrained to pass through zero at t+1, the quarter following the current quarter, a C is appended to the Zs. In that case, the degree of the polynomial is still determined by the last Almon variable used and the zero end point constraint is still obtained (automatically) by not using ZC0. However, ZC1 must be dropped from the regression for this further constraint, so that to obtain a zero slope constraint at the end point ZC2 must be dropped. Therefore a list such as ZC3 ZC4 indicates that the fourth degree polynomial is constrained to be zero at time t+1 and at the end point of the distribution, as well as to have a zero slope at this end point.

RDX2 EQUATIONS BY SECTOR

	Sector	Number of Equations		
		Behavioural	Technical	Total
1.	Consumer Expenditure	4	3	7
2.	Residential Construction	5		5
3.	Business Investment and Output	3	13	16
4.	Foreign Trade	22	9	31
5.	Business Employment, Hours, Labour Force, and Population	7	6	13
6.	Private Sector Wages	2	1	3
7.	Prices	20	3	23
8.	Income Components	3	9	12
9.	Direct Taxes and Other Current Transfers from Persons			
	Personal Income Tax	3	26	29
	Transfers from Persons to Provincial-Municipal Governments	2	1	3
	Corporation Income Tax	3	1	4
10.	Indirect Taxes and Other Government Revenue	7	1	8
11.	Transfers to Persons	5	1	6
12.	Federal Current and Capital Expenditure on Goods and Services	4	1	5

Sector	Number of Equations		
	Behavioural	Technical	Total
13. Provincial-Municipal Current and Capital Expenditure on Goods and Services	6	2	8
14. Government Asset and Liability Changes	5	8	13
15. Demand for Liquid Assets by Nonfinancial Sector	8	3	11
16. Chartered Bank Assets	6	5	11
17. Interest Rates and Mortgage Approvals	10	1	11
18. The Market Value of Real Capital, Wealth, the Supply Price of Capital and the Expected Rate of Inflation	1	6	7
19. Long-Term Capital Flows	13		13
20. International Portfolio Positions		10	10
21. The Foreign Exchange Market and Short-Term Capital Flows	3	6	9
Total Number of Equations	142	116	258

Sector 1. Consumer Expenditure

1.1 CNDSD Consumer expenditure on non-durables and semi-durables

1Q58-4Q68 OLS

$$\frac{CNDSD}{NPOP} = \underset{(5.71)}{54.901} - \underset{(26.35)}{.06509}\,[QC1(J1L[CNDSD/NPOP])]$$

$$- \underset{(14.53)}{.04251}\,[QC2(J1L[CNDSD/NPOP])]$$

$$- \underset{(20.20)}{.05518}\,[QC3(J1L[CNDSD/NPOP])]$$

$$+ JW[YDW/([PCPI][NPOP])]$$

$$+ \underset{(3.20)}{.40477}\,[YPDNWP/([PCPI][NPOP])]$$

$$+ \underset{(1.73)}{.16558}\,(J4A[YDP-YDW]-YPDNWP)/([PCPI][NPOP])$$

$$- \underset{(4.05)}{608.794}\,J4A(.01\ RHOR)$$

t	JW[YDW...]	
0	.13333	(13.27)
-1	.10208	(13.27)
-2	.07500	(13.27)
-3	.05208	(13.27)
-4	.03333	(13.27)
-5	.01875	(13.27)
-6	.00833	(13.27)
-7	.00208	(13.27)
Sum W =	.42498	Z2

see = 2.84 RB2 = .994 cov = 1.01% dw = 2.05

1.2 CS + CSMVOD Consumer expenditure on services, including imputed services from the stock of motor vehicles and other consumer durables

1Q61-4Q68 OLS

$$\frac{CS + CSMVOD + EMEDPAY/PCS}{NPOP} = -10.190 \quad (1.76)$$

$$- .00426\ [QC1(J1L[(CS+CSMVOD+EMEDPAY/PCS)/NPOP])] \quad (1.39)$$

$$+ .01791\ [QC2(J1L[(CS+CSMVOD+EMEDPAY/PCS)/NPOP])] \quad (7.00)$$

$$- .00919\ [QC3(J1L[(CS+CSMVOD+EMEDPAY/PCS)/NPOP])] \quad (4.04)$$

$$+ JW[YDW/([PCPI][NPOP])] + JW[YKGP/([PCPI][NPOP])]$$

$$+ .78252\ [YPDNWP/([PCPI][NPOP])] \quad (4.79)$$

$$+ .35975\ (J4A[YDP-YDW]-YPDNWP)/([PCPI][NPOP]) \quad (2.85)$$

$$- 9.3378\ (Q2+Q3)(QEXPO) \quad (5.45)$$

t	JW[YDW...]		JW[YKGP...]	
0	.00789	(.19)		
-1	.03708	(1.65)	.00454	(1.35)
-2	.05765	(7.17)	.00529	(1.63)
-3	.06960	(10.18)	.00543	(1.66)
-4	.07293	(5.60)	.00497	(1.60)
-5	.06763	(4.26)	.00392	(1.53)
-6	.05371	(3.66)	.00226	(1.48)
-7	.03117	(3.31)		
Sum W =	.39767	Z1Z2	.02641	Z1Z2

see = 1.77 RB2 = .992 cov = .63% dw = 2.28

1.3 CMV Consumer expenditure on motor vehicles and parts

1Q58-4Q68 OLS

$$\frac{CMV}{NPOP} = -174.024 + .03666\ [QC1(J1L[CMV/NPOP])] \quad (3.90)\ (1.46)$$

$$+ .23577\ [QC2(J1L[CMV/NPOP])] \quad (9.18)$$

$$- .10876\ [QC3(J1L[CMV/NPOP])] \quad (7.00)$$

$$+ JW[YDW/([PCPI][NPOP])]$$

$$+ .32166\ [YPDNWP/([PCPI][NPOP])] \quad (3.22)$$

$$- 516.23\ J4A[(.055+[(1+.01\ RHO)**.25]-1)(PCMV)/PCWTD] \quad (3.24)$$

$$- .35148\ J1L(KMV/NPOP) \quad (3.94)$$

where:

$$PCWTD = \frac{(CNDSD)(PCNDSD)+(CS)(PCS)+(CSMVOD)(PCSMVOD)}{(CNDSD-CS+CSMVOD)}$$

t	JW[YDW...]	
0	.21222	(4.33)
-1	.16248	(4.33)
-2	.11937	(4.33)
-3	.08290	(4.33)
-4	.05305	(4.33)
-5	.02984	(4.33)
-6	.01326	(4.33)
-7	.00332	(4.33)
Sum W =	.67644	Z2

see = 2.34 RB2 = .939 cov = 7.04% dw = 1.60

1.4 CDO Consumer expenditure on durables (excluding motor vehicles and parts)

1Q58-4Q68 OLS

$$\frac{CDO}{NPOP} = \underset{(3.54)}{25.726} - \underset{(17.87)}{.12255}\,[QC1(J1L[CDO/NPOP])]$$

$$- \underset{(4.07)}{.02847}\,[QC2(J1L[CDO/NPOP])]$$

$$+ \underset{(6.19)}{.03700}\,[QC3(J1L[CDO/NPOP])]$$

$$+ JW[YDW/([PCPI][NPOP])] + JW[YKGP/([PCPI][NPOP])]$$

$$- \underset{(4.02)}{465.69}\,J4A[(.055+[(1+.01\ RH0)^{**}.25]-1)(PCDO)/PCWTD]$$

$$+ \underset{(2.65)}{.17220}\,[YPDNWP/([PCPI][NPOP])]$$

$$+ \underset{(3.83)}{.16951}\,(J4A[YDP-YDW]-YPDNWP)/([PCPI][NPOP])$$

$$- \underset{(1.34)}{.02907}\,J1L(KDO/NPOP)$$

where:

$$PCWTD = \frac{(CNDSD)(PCNDSD)+(CS)(PCS)+(CSMVOD)(PCSMVOD)}{(CNDSD+CS+CSMVOD)}$$

t	JW[YDW...]		JW[YKGP...]	
0	.03388	(3.43)		
-1	.02594	(3.43)	.00153	(1.30)
-2	.01906	(3.43)	.00268	(2.45)
-3	.01324	(3.43)	.00327	(3.04)
-4	.00847	(3.43)	.00330	(3.28)
-5	.00476	(3.43)	.00276	(3.36)
-6	.00212	(3.43)	.00166	(3.40)
-7	.00053	(3.43)		
Sum W =	.10800	Z2	.01521	Z1Z2

see = .848 RB2 = .984 cov = 1.99% dw = 1.68

Technical Relationships

1.5 KMV — Stock of consumer motor vehicles

KMV = (1-.055)[J1L(KMV)] + (1-.0273)CMV

1.6 KDO — Stock of consumer durables (excluding motor vehicles)

KDO = (1-.055)[J1L(KDO)] + (1-.055)CDO

1.7 CSMVOD — Imputed consumer services from the stock of motor vehicles and other consumer durables

CSMVOD = .06656 [J1L(KDO+KMV)] + .055 CDO + .0273 CMV

Sector 2. Residential Construction

2.1 IRC — Business investment in residential construction

1Q56-4Q68 OLS

IRC = - 7.4549 QC1 - 44.121 QC2 + 26.259 QC3
(.55) (4.79) (3.12)

+ JW(HSTS) + JW(HSTM)

t	JW(HSTS)		JW(HSTM)	
0	6.65611	(12.94)	3.50695	(4.75)
-1	4.73186	(10.87)	1.59990	(2.63)
-2	2.73423	(10.19)	2.11137	(4.03)
-3	1.03351	(2.43)	3.22567	(8.96)
-4			3.12711	(5.38)
Sum W =	15.15571	Z1Z2Z3	13.57100	Z1Z2Z3

see = 17.91 RB2 = .964 cov = 3.47% dw = 1.42

2.2 HSTS — Housing starts, single-detached (thousand units)

2Q57-4Q68 OLS

1000 HSTS/NHH = 83.407 - 2.4719 QC1 + 1.2582 QC2
(6.86) (11.79) (6.41)

+ 1.0529 QC3 - 95.482 [J1L(SHS)]/NHH - 1.2619 RMC
(5.31) (6.01) (7.29)

+ 2.0945 J2L[(RABEL-RABELD)/RABEL] - .09578 ZWW
(1.77) (.37)

+ .86996 (ZWW)(QC1) - 1.6063 (ZWW)(QC2)
(2.21) (4.12)

- .62465 (ZWW)(QC3)
(1.60)

see = .673 RB2 = .865 cov = 14.33% dw = 2.25

2.3 HSTM Housing starts, multiples (thousand units)

2Q57-4Q68 OLS

$$1000\,HSTM/NHH = \underset{(3.49)}{8.7130} - \underset{(6.82)}{1.2501}\,QC1 + \underset{(5.97)}{1.1246}\,QC2$$

$$+ \underset{(.23)}{.04710}\,QC3 - \underset{(2.70)}{63.126}\,[J1L(SHM)]/NHH$$

$$+ \underset{(2.34)}{2.3143}\,J2L[(RABEL-RABELD)/RABEL]$$

$$+ \underset{(2.02)}{72.274}\,HAPCMHCM/[(PIRC)(NHH)]$$

$$+ [JW(YDP/PGPP)]/NHH + \underset{(4.01)}{.00247}\,J4D(ATL)$$

$$- \underset{(2.37)}{1.1122}\,QNHA + \underset{(1.25)}{.37245}\,ZWW - \underset{(2.12)}{.71245}\,(ZWW)(QC1)$$

$$- \underset{(.97)}{.31682}\,(ZWW)(QC2) + \underset{(2.35)}{.77793}\,(ZWW)(QC3)$$

t	[JW(YDP...)]/NHH	
0	2.59602	(2.56)
-1	2.27152	(2.56)
-2	1.94702	(2.56)
-3	1.62251	(2.56)
-4	1.29801	(2.56)
-5	.97351	(2.56)
-6	.64901	(2.56)
-7	.32450	(2.56)
Sum W =	11.68210	Z1

see = .558 RB2 = .878 cov = 13.97% dw = 2.01

2.4 SHS Stock of single-detached dwellings (thousand units)

2Q57-4Q68 OLS

J1D(SHS) = 13.792 - 4.9500 QC1 + 2.1268 QC2 + 1.5805 QC3
(1.32) (3.86) (1.82) (1.77)

+ JW(HSTS) - .00480 J1L(SHS)
(2.06)

t	JW(HSTS)	
0	.08633	(.86)
-1	.35954	(4.77)
-2	.29942	(4.80)
-3	.11118	(1.48)
Sum W =	.85647	Z1Z2Z3

see = 2.45 RB2 = .671 dw = 1.32

2.5 SHM Stock of multiple dwellings (thousand units)

2Q57-4Q68 OLS

J1D(SHM) = 8.2781 - 4.7958 QC1 - .13015 QC2 + 2.1061 QC3
(5.13) (2.44) (.09) (1.72)

+ JW(HSTM)

t	JW(HSTM)	
0	-.30148	(2.19)
-1	.29370	(2.77)
-2	.39136	(4.14)
-3	.22157	(3.34)
-4	.01442	(.14)
Sum W =	.61957	Z1Z2Z3

see = 3.34 RB2 = .549 dw = 2.29

Sector 3. Business Investment and Output

3.1 IME Business investment in machinery and equipment

1Q59-4Q68 OLS

IME-.05 J1L(KME) = - 1422.4 Q1 - 1344.1 Q2 - 1478.4 Q3
(4.66) (4.20) (4.45)

- 1537.8 Q4 + .08745 (Q1[JW(KMEY[JW(UGPPA)-UGPPAMP])])
(4.66) (7.06)

+ .09684 (Q2[JW(KMEY[JW(UGPPA)-UGPPAMP])])
(7.62)

+ .07071 (Q3[JW(KMEY[JW(UGPPA)-UGPPAMP])])
(5.86)

+ .10298 (Q4[JW(KMEY[JW(UGPPA)-UGPPAMP])])
(8.52)

+ JW[((FIDI12+FIDI13)/PIME)/J12A((FIDI12+FIDI13)/PIME)]

+ JW[((YCR+CCAC$)/PIME)/J8A((YCR+CCAC$)/PIME)]

+ JW[(J1D(ABLB)/PIME)/J8A(J1D(ABLB)/PIME)]

t	JW(KMEY...)	JW(UGPPA)	JW[((FIDI12...)]	
0			56.028	(4.42)
-1	.1	.912748	56.006	(6.89)
-2	.15	.387471	53.989	(6.38)
-3	.30	.201812	49.977	(7.19)
-4	.25	.023799	43.971	(5.73)
-5	.15	- .007194	35.970	(4.74)
-6	.05	- .038344	25.975	(4.09)
-7		- .056743	13.985	(3.64)
-8		- .065876		
-9		- .069366		
-10		- .069598		
-11		- .068029		
-12		- .065530		
Sum W =	1.00	1.085150	335.899	Z1Z2

t		JW[((YCR...)]		JW[(J1D(ABLB)...)]	
0		396.334	(3.56)	2.46848	(1.65)
-1		275.232	(3.56)	1.57983	(1.65)
-2		176.148	(3.56)	.88865	(1.65)
-3		99.084	(3.56)	.39496	(1.65)
-4		44.037	(3.56)	.09874	(1.65)
-5		11.009	(3.56)		
Sum W	=	1001.844	Z2	5.43066	Z2

see = 44.69 RB2 = .933 dw = 1.94

3.2 INRC Business investment in non-residential construction

1Q59-4Q68 OLS

INRC-.01 J1L(KNRC) = - 167.08 Q1 - 72.736 Q2 + 74.429 Q3
(.40) (.17) (.17)

- 14.450 Q4 + .04625 (Q1[JW(KNRY[JW(UGPPA)-UGPPANP])])
(.03) (10.94)

+ .05372 (Q2[JW(KNRY[JW(UGPPA)-UGPPANP])])
(12.11)

+ .06262 (Q3[JW(KNRY[JW(UGPPA)-UGPPANP])])
(13.80)

+ .05845 (Q4[JW(KNRY[JW(UGPPA)-UGPPANP])])
(12.03)

+ JW[((FIDI12+FIDI13)/PINRC)/J8A((FIDI12+FIDI13)/PINRC)]

+ JW[((YCR+CCAC$)/PINRC)/J8A((YCR+CCAC$)/PINRC)]

+ JW[RL/J8A(RL)]

t	JW(KNRY...)	JW(UGPPA)	JW[((FIDI12...))]	
0			- 4.3967	(.62)
-1		1.013285	6.1418	(1.15)
-2	.06	.408832	14.6525	(2.84)
-3	.11	.191007	21.1355	(3.61)
-4	.16	.063129	25.5907	(3.84)
-5	.17	- .010338	28.0181	(3.89)
-6	.16	- .051142	28.4178	(3.89)
-7	.13	- .072476	26.7898	(3.87)
-8	.11	- .082322	23.1340	(3.85)
-9	.07	- .089550	17.4504	(3.82)
-10	.04	- .084890	9.7391	(3.80)
-11		- .082237		
-12		- .073857		
Sum W =	1.01	1.129441	196.6729	Z1Z2

t	JW[((YCR...))]		JW[RL/J8A(RL)]	
0	75.471	(1.09)	- 54.028	(1.39)
-1	101.010	(1.78)	- 75.948	(2.89)
-2	120.068	(2.58)	- 92.502	(5.40)
-3	132.647	(3.45)	-103.690	(8.08)
-4	138.746	(4.31)	-109.511	(8.04)
-5	138.365	(5.02)	-109.966	(6.80)
-6	131.504	(5.51)	-105.054	(5.82)
-7	118.163	(5.77)	- 94.776	(5.17)
-8	98.342	(5.84)	- 79.132	(4.72)
-9	72.041	(5.81)	- 58.121	(4.39)
-10	39.261	(5.71)	- 31.744	(4.15)
Sum W =	1165.617	Z1Z2	-914.474	Z1Z2

see = 20.76 RB2 = .978 dw = .74

3.3 IIB Change in nonfarm business inventories

1Q56-4Q68 OLS

$$
\begin{aligned}
IIB = {} & \underset{(3.03)}{373.96} + \underset{(3.02)}{.00823}\,[QC1(J1L(KIB))] \\
& + \underset{(.92)}{.00281}\,[QC2(J1L(KIB))] - \underset{(3.23)}{.00859}\,[QC3(J1L(KIB))] \\
& - \underset{(2.69)}{.16088}\,J1L(KIB) + \underset{(9.19)}{.46104}\,[UGPPS-(UGPP-IIB)] \\
& + JW[CNDSD+CMV+CDO+XG+(GCNWF+GCNWPM+GCGSH \\
& \quad -CCAGF\$-CCAGPM\$-CCAGH\$)/PGCNWG] \\
& + JW(MG) + JW(IME+INRC+IRC+IMEGF+IMEGPM+INRCGF \\
& \quad +INRCGPM+INRCSM+IH+EIADJ)
\end{aligned}
$$

t		JW[CNDSD...]		JW(MG)	
0		.02842	(.39)	.13186	(1.61)
-1		.03485	(.92)	.04464	(1.02)
-2		.03843	(2.82)	-.02236	(1.03)
-3		.03916	(2.51)	-.06916	(2.65)
-4		.03703	(1.41)	-.09574	(2.65)
-5		.03205	(1.04)	-.10212	(2.56)
-6		.02422	(.87)	-.08829	(2.50)
-7		.01354	(.76)	-.05425	(2.46)
Sum W	=	.24769	Z1Z2	-.25542	Z1Z2

t		JW(IME...)	
0		.16217	(2.92)
-1		.08615	(2.73)
-2		.02606	(1.31)
-3		-.01811	(.81)
-4		-.04634	(1.68)
-5		-.05865	(2.02)
-6		-.05503	(2.20)
-7		-.03548	(2.29)
Sum W	=	.06077	Z1Z2

see = 66.24 RB2 = .888 dw = 2.37

Technical Relationships

3.4 KME Stock of machinery and equipment

KME = .95 J1L(KME) + IME

3.5 KNRC Stock of non-residential construction

KNRC = .99 J1L(KNRC) + INRC

3.6 KIB Stock of nonfarm business inventories

KIB = J1L(KIB) + IIB

3.7 KMEY Desired capital/output ratio for machinery and equipment

$$KMEY = \frac{1}{2.7985}\,[(.205/.145)^{**}.145]\,[(.205/.65)^{**}.65]\,[(JW[WQMMOB/(13\ HAWMM)]\,[(1-.01\ RTCA)/.01\ RCME])^{**}.65]\,[(RCNR/RCME)^{**}.145]$$

3.8 KNRY Desired capital/output ratio for non-residential construction

$$KNRY = \frac{1}{2.7985}\,[(.145/.205)^{**}.205]\,[(.145/.65)^{**}.65]\,[(JW[WQMMOB/(13\ HAWMM)]\,[(1-.01\ RTCA)/.01\ RCNR])^{**}.65]\,[(RCME/RCNR)^{**}.205]$$

3.9 RCME Imputed rental price for machinery and equipment (per cent per quarter)

$$RCME = JW(PIME)(1-CPVME(\frac{.01\ RTCA}{.50}))(.05 + [(1+.01[RH02]\,[LDIRV12/KB\$]+.01[RH0]\,[1-LDIRV12/KB\$])^{**}.25-1]\,[1-.01\ RTCA(\frac{J4S(ECINT)}{J4S(ECINT+YC)})])100$$

3.10 RCNR Imputed rental price for non-residential construction (per cent per quarter)

$$RCNR = JW(PINRC)(1-CPVNR(\frac{.01\ RTCA}{.50}))(.01 + [(1+.01[RH02]$$

$$[LDIRV12/KB\$]+.01[RH0][1-LDIRV12/KB\$])^{**}.25-1]$$

$$[1-.01\ RTCA(\frac{J4S(ECINT)}{J4S(ECINT+YC)})])100$$

JW weights for equations 3.7 to 3.10

t	JW[WQMMOB/(13 HAWMM)] for KMEY	for KNRY	JW(PIME)	JW(PINRC)
-1	.82630	1.66328	.83756	.89508
-2	.29377	.59134	.35618	.37927
-3	.16898	.34015	.18653	.19719
-4	.09411	.18943	.08704	.02162
-5	.04946	.09956	- .03900	- .00787
-6	.02311	.04651	- .03912	- .03804
-7	.00788	.01567	- .05197	- .05585
-8	- .00090	- .00181	- .05975	- .06466
-9	- .00561	- .01130	- .06292	- .06800
-10	- .00797	- .01605	- .06326	- .06819
-11	- .00895	- .01801	- .06200	- .06666
-12	- .09988	- .20106	- .05991	- .06423
Sum W =	1.34030	2.69771	1.02938	1.05966

3.11 UGPPAMP Preferred output according to vintage stock of machinery and equipment

UGPPAMP = .95 J1L(UGPPAMP) + IME/J3L(KMEY)

3.12 UGPPANP Preferred output according to vintage stock of non-residential construction

UGPPANP = .99 J1L(UGPPANP) + INRC/J5L(KNRY)

3.13 UGPP Gross private business product (excluding agriculture and noncommercial services) (1961 dollars)

UGPP = YGPP/PGPP

3.14 UGPPA UGPP adjusted to remove unintended inventory changes

UGPPA = UGPP - .4610 [UGPPS-89.9-(UGPP-IIB)]

3.15 UGPPD — Desired output based on production function with actual capital stock, average employment rate and trended weekly hours

$$UGPPD = 2.943\ (|J1L(KME)|^{**}.205)(|J1L(KNRC)|^{**}.145)\ (|(\frac{41.246-.009282\ QTIME}{.12685})(NMMOB)(1+\frac{NL}{NE}-1.05179)(ELEFF)|^{**}.65)$$

3.16 UGPPS — Aggregate supply based on production function with actual factor inputs

$$UGPPS = 2.943\ (|J1L(KME)|^{**}.205)(|J1L(KNRC)|^{**}.145)\ (|(\frac{HAWMM}{.12685})(NMMOB)(ELEFF)|^{**}.65)$$

Sector 4. Foreign Trade

4.1 MFB12 Imports of food and beverages from the United States (SITC 0,1)

1Q58-3Q68 OLS

MFB12 = 118.46 - .05834 [QC1(J1L(MFB12))]
(4.68) (3.75)

+ .09647 [QC2(J1L(MFB12))] - .02174 [QC3(J1L(MFB12))]
(5.81) (1.49)

+ .01811 (.834 CNDSD+.0276 UGNWNH+.0164 IIB+.1221 XG)
(11.85)

+ JW(PMFB12/PCPI)

t	JW(PMFB12/PCPI)	
0	-25.43051	(2.69)
-1	-20.48424	(3.70)
-2	-16.04295	(4.15)
-3	-12.10665	(2.79)
-4	- 8.67534	(1.89)
-5	- 5.74902	(1.09)
-6	- 3.32769	(.74)
-7	- 1.41135	(.51)
Sum W =	-93.22776	Z1Z2

see = 4.74 RB2 = .863 cov = 5.79% dw = 1.25

4.2 MEF12 Imports of energy fuels from the United States (SITC 3)

1Q58-3Q68 OLS

$$
\begin{aligned}
MEF12 = {} & 11.2656 - .27822\ [QC1(J1L(MEF12))] \\
& (1.22) \quad (5.42) \\
& + .26424\ [QC2(J1L(MEF12))] + .06955\ [QC3(J1L(MEF12))] \\
& (3.76) \qquad\qquad\qquad\qquad (2.03) \\
& + .00454\ [.601\ CNDSD + .085\ (IRC + INRC) + .072\ UGNWNH \\
& (1.27) \\
& \qquad + .014\ IIB + .23\ XG]\ (PGPP/PMEF12) \\
& + 13.439\ QTHERM - 22.810\ QMEF12 + .43207\ J1L(MEF12) \\
& (3.51) \qquad\qquad (6.12) \qquad\qquad (4.75)
\end{aligned}
$$

see = 5.10 RB2 = .901 cov = 12.05% dw = 1.32

4.3 MCM12 Imports of crude materials from the United States (SITC 2, 4)

1Q58-3Q68 OLS

$$
\begin{aligned}
MCM12 = {} & 2.1683 - .10693\ [QC1(J1L(MCM12))] \\
& (.22) \quad (4.40) \\
& + .05038\ [QC2(J1L(MCM12))] - .01016\ [QC3(J1L(MCM12))] \\
& (1.82) \qquad\qquad\qquad\qquad (.42) \\
& + .00804\ [(UGPP)(J4A(UGPPA/UGPPD)/J4A(XB2/XBC2))] \\
& (9.62)
\end{aligned}
$$

see = 9.00 RB2 = .755 cov = 9.56% dw = .83

4.4 MMF12 Imports of manufactures (excluding transportation equipment) from the United States (SITC 5-8 [excluding transportation equipment])

1Q58-3Q68 OLS

$$
\begin{aligned}
MMF12 = {} & 156.54 + .041559\ [QC1(J1L(MMF12))] \\
& (6.15) \quad (3.99) \\
& + .019727\ [QC2(J1L(MMF12))] - .009650\ [QC3(J1L(MMF12))] \\
& (1.78) \qquad\qquad\qquad\qquad\qquad (1.18) \\
& + .22112\ [(.16\ CNDSD + .33\ (CMV+CDO) + .09\ UGNWNH \\
& (4.56) \\
& \qquad + .01\ IIB + .29\ IME + .12\ XG)(PGPP/PMMF12) \\
& \qquad (J4A(UGPPA/UGPPD))] \\
& + .29119\ [(IME)(PGPP/PMMF12)(J4A(UGPPA/UGPPD))] \\
& (4.85)
\end{aligned}
$$

see = 22.75 RB2 = .976 cov = 3.19% dw = 1.84

4.5 MMV12 Imports of motor vehicles and parts from the United States

1Q58-3Q68 OLS

$$
\begin{aligned}
MMV12 = {} & 20.270 + .020440\ [QC1(J1L(MMV12))] \\
& (1.58) \quad (.90) \\
& - .14517\ [QC2(J1L(MMV12))] - .083370\ [QC3(J1L(MMV12))] \\
& (6.32) \qquad\qquad\qquad\qquad (4.33) \\
& + .30087\ CMV + .24299\ (QAUTO)(CMV) \\
& (8.89) \qquad (29.56) \\
& + .094845\ (QAUTST)(CMV) \\
& (3.50)
\end{aligned}
$$

see = 19.22 RB2 = .985 cov = 8.83% dw = 2.08

4.6 MNTE13 Imports of goods (excluding transportation equipment and unclassified commodity transactions [SITC 9]) from other countries (SITC 0-8 [excluding transportation equipment])

1Q58-3Q68 OLS

MNTE13 = 84.900 - .13305 [QC1(J1L(MNTE13))]
(8.29) (14.55)

+ .01150 [QC2(J1L(MNTE13))] + .07680 [QC3(J1L(MNTE13))]
(1.07) (8.54)

+ JW[(PGPP/PMNTE13)(.096 CNDSD+.3837 (CMV+CDO)

+.3617 IME+.0073 (IRC+INRC)+.0854 UGNWNH

+.1279 IIB+.0809 XG)]

t		JW[(PGPP...)]	
0		.09949	(40.43)
-1		.07617	(40.43)
-2		.05596	(40.43)
-3		.03886	(40.43)
-4		.02487	(40.43)
-5		.01399	(40.43)
-6		.00622	(40.43)
-7		.00155	(40.43)
Sum W	=	.31713	Z2

see = 17.39 RB2 = .980 cov = 3.61% dw = 2.24

4.7 XMV12 Exports of motor vehicles and parts to the United States

1Q63-4Q68 OLS

XMV12 = - .08711 + .13874 [QC1(J1L(XMV12))]
(.02) (6.45)

+ .08737 [QC2(J1L(XMV12))] - .02402 [QC3(J1L(XMV12))]
(4.44) (1.32)

+ 9.2880 (QAUTO)[(EC2/ESAEC2)+.001(CDO+CMV)]
(71.59)

see = 14.48 RB2 = .996 cov = 6.90% dw = 1.89

4.8 XNMV12 Exports of goods (excluding uranium, aircraft and parts, and motor vehicles and parts) to the United States

1Q57-4Q68 OLS

XNMV12 = - 2649.3 - .09686 (QC1[J4L(XNMV12)])
(14.25) (9.77)

+ .03741 (QC2[J4L(XNMV12)]) + .02307 (QC3[J4L(XNMV12)])
(4.37) (2.70)

+ JW(XB2/XBC2)

+ JW[((XOBE$2/ESAXO2)/.01 POBE2)(XB2/XBC2)]

+ JW[(PFX)[(EPS$2+EPD$2)/(EPS2+EPD2)]/J4A(PXNMV12)]

+ .85801 QSTRIKE
(1.96)

t	JW(XB2/XBC2)		JW[((XOBE$2...)]	
0	997.90	(7.51)		
-1	561.32	(7.51)		
-2	249.47	(7.51)		
-3	62.37	(7.51)		
-4				
-5			.05056	(.12)
-6			.42842	(1.63)
-7			.72980	(5.21)
-8			.95468	(14.02)
-9			1.10307	(11.67)
-10			1.17497	(8.18)
-11			1.17037	(6.64)
-12			1.08928	(5.82)
-13			.93170	(5.31)
-14			.69763	(4.97)
-15			.38706	(4.72)
Sum W =	1871.06	Z2	8.71752	Z1Z2

t	JW[(PFX)...]	
-1	351.876	(9.97)
-2	258.521	(9.97)
-3	179.528	(9.97)
-4	114.898	(9.97)
-5	64.630	(9.97)
-6	28.725	(9.97)
-7	7.181	(9.97)
Sum W =	1005.359	Z2

see = 30.48 RB2 = .985 cov = 3.29% dw = 1.86

4.9 XNW13 Exports of goods (excluding wheat, uranium, and aircraft and parts) to other countries

4Q54-4Q68 OLS

$$\ln(XNW13) = -4.7181 - .01383\ [QC1(J4L[\ln(XNW13)])] \quad (5.25)\ (6.06)$$

$$+ .00135\ [QC2(J4L[\ln(XNW13)])] \quad (.60)$$

$$+ .00893\ [QC3(J4L[\ln(XNW13)])] \quad (3.83)$$

$$+ 1.0698\ \ln[XVOL\$/PWXG] + JW[\ln(PXNW13/[(PWXG)(PFX)])] \quad (12.34)$$

$$+ JW[\ln(J4A(UGPPA/UGPPD))]$$

$$+ .00859\ (QFLEX)(\ln[XVOL\$/PWXG]) \quad (2.10)$$

t	JW[ln(PXNW13...)]		JW[ln(J4A...)]	
0			-.21322	(1.53)
-1	-.41563	(2.28)	-.17769	(1.53)
-2	-.23379	(2.28)	-.14215	(1.53)
-3	-.10391	(2.28)	-.10661	(1.53)
-4	-.02598	(2.28)	-.07107	(1.53)
-5			-.03554	(1.53)
Sum W =	-.77930	Z2	-.74628	Z1

see = .060 RB2 = .951 cov = .96% dw = 1.64

4.10 XID$12 Interest and dividend receipts from the United States

1Q54-4Q68 OLS

$$\frac{XID\$12}{(YII\$2+YDV\$2)(PFX)} = .99732\ (Q1[1000\ A12/([PFX][1000000\ VCN\$2]+A12)])$$
(18.11)

$$+ .98372\ (Q2[1000\ A12/([PFX][1000000\ VCN\$2]+A12)])$$
(17.75)

$$+ .98299\ (Q3[1000\ A12/([PFX][1000000\ VCN\$2]+A12)])$$
(17.66)

$$+ 1.3116\ (Q4[1000\ A12/([PFX][1000000\ VCN\$2]+A12)])$$
(23.68)

see = .244 RB2 = .267 cov = 20.06% dw = 1.09

4.11 XTR$12 Travel receipts from the United States

3Q54-4Q68 OLS

$$(XTR\$12/N2) = -1.4040 - .99590\ [QC1(J1L(XTR\$12/N2))]$$
(4.80) (22.28)

$$- .23741\ [QC2(J1L(XTR\$12/N2))]$$
(4.50)

$$+ 1.4316\ [QC3(J1L(XTR\$12/N2))]$$
(46.11)

$$+ JW(PFX) + JW[(EC0\$2/ESAEC2)/N2] + .39155\ QEXP0$$
(7.48)

t	JW(PFX)		JW[(EC0$2...]	
0	.38420	(3.32)	.53405	(7.14)
-1	.29415	(3.32)	.40888	(7.14)
-2	.21611	(3.32)	.30040	(7.14)
-3	.15008	(3.32)	.20861	(7.14)
-4	.09605	(3.32)	.13351	(7.14)
-5	.05403	(3.32)	.07510	(7.14)
-6	.02401	(3.32)	.03338	(7.14)
-7	.00600	(3.32)	.00834	(7.14)
Sum W =	1.22464	Z2	1.70228	Z2

see = .078 RB2 = .985 cov = 11.07% dw = 2.33

4.12 XFS$12 Freight and shipping receipts from the United States

3Q54-4Q68 OLS

$$XFS\$12 = \underset{(1.30)}{5.1619} - \underset{(5.72)}{.076171}\,[QC1(J1L(XFS\$12))] - \underset{(.73)}{.010625}\,[QC2(J1L(XFS\$12))] + \underset{(6.57)}{.081555}\,[QC3(J1L(XFS\$12))] + \underset{(11.81)}{.067668}\,XG\$12 - \underset{(5.67)}{.005076}\,(QAUTO)(XG\$12) - \underset{(1.14)}{.002524}\,(QSEA)(XG\$12)$$

where:

$$XG\$12 = (XMV12)(PXMV12) + (XNMV12)(PXNMV12) + (XMIS12)(PXMIS12)$$

see = 4.00 RB2 = .970 cov = 5.66% dw = 1.40

4.13 XID$13 Interest and dividend receipts from other countries

1Q57-4Q68 OLS

$$XID\$13 = \underset{(20.48)}{.28443}\,(.30420\,J20A[.01\,RLUK]+.03775)(A13) - \underset{(3.39)}{.08306}\,[QC1(.30420\,J20A[.01\,RLUK]+.03775)(A13)] - \underset{(.07)}{.00158}\,[QC2(.30420\,J20A[.01\,RLUK]+.03775)(A13)] - \underset{(3.46)}{.08205}\,[QC3(.30420\,J20A[.01\,RLUK]+.03775)(A13)] + \underset{(6.72)}{54.629}\,QXDIV$$

see = 7.76 RB2 = .759 cov = 31.96% dw = 2.06

4.14 XTR$13 Travel receipts from other countries

3Q54-4Q68 OLS

$$XTR\$13 = -7.6749 - .80801\ [QC1(J1L(XTR\$13))] + .42689\ [QC2(J1L(XTR\$13))] + .61111\ [QC3(J1L(XTR\$13))] + JW(.001\ XVOL\$) + 18.010\ QEXP0$$

(4.66) (10.66) (4.79) (13.34) (7.58)

t	JW(.001 XVOL$)	
0	.26792	(13.49)
-1	.20513	(13.49)
-2	.15071	(13.49)
-3	.10466	(13.49)
-4	.06698	(13.49)
-5	.03768	(13.49)
-6	.01675	(13.49)
-7	.00419	(13.49)
Sum W =	.85400	Z2

see = 3.55 RB2 = .929 cov = 23.01% dw = 1.95

4.15 XFS$13 Freight and shipping receipts from other countries

3Q54-4Q68 OLS

$$XFS\$13 = \underset{(.94)}{3.5009} - \underset{(.97)}{.026559}\ [QC1(J1L(XFS\$13))]$$

$$+ \underset{(.58)}{.017269}\ [QC2(J1L(XFS\$13))]$$

$$- \underset{(.01)}{.000219}\ [QC3(J1L(XFS\$13))] + \underset{(5.51)}{.073912}\ XG\$13$$

$$+ \underset{(2.37)}{.026906}\ J1L(XG\$13) - \underset{(2.58)}{.011889}\ (QSEA)(XG\$13)$$

where:

$$XG\$13 = (XNW13)(PXNW13) + (XW13)(PXW13) + (XMIS13)(PXMIS13)$$

see = 5.47 RB2 = .929 cov = 7.98% dw = .70

4.16 MINT$12 Interest payments to the United States

1Q57-4Q68 OLS

$$MINT\$12 = \underset{(102.2)}{.25899}\ [(.757(\frac{J20S[(FI12)(.01\ RCB2/PFX)]}{J20S(FI12)})(PFX) + .243(\frac{J20S[(FI12)(.01\ RL)]}{J20S(FI12)}))(LGB12+LCB12)]$$

$$- \underset{(6.29)}{.028607}\ (QC1[\text{same as first term}])$$

$$+ \underset{(8.20)}{.036267}\ (QC2[\text{same as first term}])$$

$$- \underset{(8.18)}{.035531}\ (QC3[\text{same as first term}])$$

where:

$$FI12 = FINIGF12 + FINIPM12 + FINIB12 + FITOGB12 + FITOBB12$$

see = 5.12 RB2 = .972 cov = 7.25% dw = 1.14

4.17 MDIV$12 Dividend payments to the United States

1Q57-4Q68 OLS

$$
\begin{aligned}
MDIV\$12 = {} & \underset{(5.49)}{.03784}\ J4S[([LDIRV12+LPCV12]/KB\$)(YC+CCAC\$-TCA)] \\
& - \underset{(2.29)}{.00434}\ [QC1(J4S[([LDIRV12+LPCV12]/KB\$)(YC+CCAC\$-TCA)])] \\
& - \underset{(2.91)}{.00620}\ [QC2(J4S[([LDIRV12+LPCV12]/KB\$)(YC+CCAC\$-TCA)])] \\
& - \underset{(2.60)}{.00505}\ [QC3(J4S[([LDIRV12+LPCV12]/KB\$)(YC+CCAC\$-TCA)])] \\
& + \underset{(1.68)}{.24324}\ J4L(MDIV\$12)
\end{aligned}
$$

see = 16.33 RB2 = .853 cov =14.08% dw = 1.99

4.18 MTR$12 Travel payments to the United States

3Q54-4Q68 OLS

$$\frac{MTR\$12}{NPOP} = 15.554 - .18629\ [QC1(J1L(MTR\$12/NPOP))] \quad (5.25) \quad (7.25)$$

$$+ .12002\ [QC2(J1L(MTR\$12/NPOP))] \quad (5.16)$$

$$+ .28421\ [QC3(J1L(MTR\$12/NPOP))] \quad (14.94)$$

$$+ .037807\ ([(PCS)(CS)+(PCSMVOD)(CSMVOD)]/NPOP) \quad (8.84)$$

$$- .98817\ (QDUSA+QDNUSA) + JW(PFX) \quad (2.67)$$

t		JW(PFX)	
0		- 6.82427	(4.26)
-1		- 4.36753	(4.26)
-2		- 2.45674	(4.26)
-3		- 1.09188	(4.26)
-4		- .27297	(4.26)
Sum W	=	-15.01340	Z2

see = .86 RB2 = .896 cov = 8.87% dw = 1.82

4.19 MFS$12 Freight and shipping payments to the United States

3Q54-4Q68 OLS

$$MFS\$12 = \underset{(2.77)}{42.551} - \underset{(18.98)}{.18657}\,[QC1(J1L(MFS\$12))]$$

$$+ \underset{(.36)}{.00630}\,[QC2(J1L(MFS\$12))]$$

$$+ \underset{(6.80)}{.12602}\,[QC3(J1L(MFS\$12))]$$

$$+ \underset{(6.55)}{.05979}\,MG\$12 + \underset{(1.18)}{.00976}\,J1L(MG\$12)$$

$$- \underset{(5.73)}{.004315}\,(QAUTO)(MG\$12) + JW(PFX)$$

where:

$$MG\$12 = (MFB12)(PMFB12) + (MEF12)(PMEF12)$$
$$+ (MCM12)(PMCM12) + (MMF12)(PMMF12)$$
$$+ (MMV12)(PMMV12) + (MMIS12)(PMMIS12)$$

t	JW(PFX)	
0	-12.05357	(1.45)
-1	- 7.71429	(1.45)
-2	- 4.33929	(1.45)
-3	- 1.92857	(1.45)
-4	- .48214	(1.45)
Sum W =	-26.51786	Z2

see = 3.84 RB2 = .979 cov = 3.97% dw = 1.40

4.20 MID$13 Interest and dividend payments to other countries

1Q57-4Q68 OLS

$$MID\$13 = \underset{(45.80)}{.19237}\ [.241\ J20A(.01\ RL)+.013](LDIPRV13+LGB13)$$
$$+\ \underset{(4.08)}{.03026}\ [QC1[.241\ J20A(.01\ RL)+.013](LDIPRV13+LGB13)]$$
$$-\ \underset{(4.67)}{.03414}\ [QC2[.241\ J20A(.01\ RL)+.013](LDIPRV13+LGB13)]$$
$$-\ \underset{(1.43)}{.01037}\ [QC3[.241\ J20A(.01\ RL)+.013](LDIPRV13+LGB13)]$$

see = 5.38 RB2 = .596 cov = 15.27% dw = 1.28

4.21 MTR$13 Travel payments to other countries

3Q54-4Q68 OLS

$$\frac{MTR\$13}{NPOP} = \underset{(2.65)}{-\ 3.3876} - \underset{(12.14)}{.33879}\ [QC1(J1L(MTR\$13/NPOP))]$$
$$-\ \underset{(3.05)}{.08700}\ [QC2(J1L(MTR\$13/NPOP))]$$
$$+\ \underset{(24.06)}{.57639}\ [QC3(J1L(MTR\$13/NPOP))]$$
$$+\ \underset{(8.37)}{.016086}\ ([(PCS)(CS)+(PCSMVOD)(CSMVOD)]/NPOP)$$
$$-\ \underset{(2.24)}{.53982}\ QEXPO + \underset{(2.62)}{.42244}\ (QDUSA+QDNUSA) + JW(PFX)$$

t	JW(PFX)	
0	1.09531	(1.59)
-1	.70100	(1.59)
-2	.39431	(1.59)
-3	.17525	(1.59)
-4	.04381	(1.59)
Sum W =	2.40968	Z2

see = .370 RB2 = .949 cov = 10.03% dw = 1.86

4.22 MFS$13 Freight and shipping payments to other countries

3Q54-4Q68 OLS

$$MFS\$13 = -39.037 + .05990\ [QC1(J1L(MFS\$13))] \quad (2.66)\ (3.57)$$
$$- .03911\ [QC2(J1L(MFS\$13))] - .00907\ [QC3(J1L(MFS\$13))] \quad (2.60)\ (.66)$$
$$+ .08596\ MG\$13 + 9.0420\ QSEA + JW(PFX) \quad (15.13)\ (6.04)$$

where:

$$MG\$13 = (MNTE13)(PMNTE13) + (MMV13)(PMMV13) + (MMIS13)(PMMIS13)$$

t	JW(PFX)	
0	20.72174	(2.80)
-1	13.26191	(2.80)
-2	7.45982	(2.80)
-3	3.31548	(2.80)
-4	.82887	(2.80)
Sum W =	45.58782	Z2

see = 3.64 RB2 = .964 cov = 6.23% dw = .97

Technical Relationships

4.23 M$12 Imports of goods and services from the United States (current dollars)

$$M\$12 = (MFB12)(PMFB12) + (MEF12)(PMEF12) + (MCM12)(PMCM12) + (MMF12)(PMMF12) + (MMV12)(PMMV12) + (MMIS12)(PMMIS12) + MINT\$12 + MDIV\$12 + MTR\$12 + MFS\$12 + MOS\$12$$

4.24 X$12 Exports of goods and services to the United States (current dollars)

X$12 = (XMV12)(PXMV12) + (XNMV12)(PXNMV12)
+ (XMIS12)(PXMIS12) + XID$12 + XTR$12
+ XFS$12 + XOS$12

4.25 M$13 Imports of goods and services from other countries (current dollars)

M$13 = (MNTE13)(PMNTE13) + (MMV13)(PMMV13)
+ (MMIS13)(PMMIS13) + MID$13 + MTR$13 + MFS$13
+ MOS$13

4.26 X$13 Exports of goods and services to other countries (current dollars)

X$13 = (XNW13)(PXNW13) + (XW13)(PXW13) + (XMIS13)(PXMIS13)
+ XID$13 + XTR$13 + XFS$13 + XOS$13

4.27 M Imports of goods and services

M = MG + (MINT$12+MDIV$12+MTR$12+MFS$12+MOS$12+MID$13
+MTR$13+MFS$13+MOS$13+TWF-MTRP$-GTNRF-MIH$)/PMS

4.28 X Exports of goods and services

X = XG + (XID$12+XTR$12+XFS$12+XOS$12+XID$13+XTR$13
+XFS$13+XOS$13-XTRP$-XIH$)/PXS

4.29 XG Exports of goods

XG = XMV12 + XNMV12 + XW13 + XNW13 + XMIS12 +XMIS13

4.30 MG Imports of goods

MG = MFB12 + MEF12 + MCM12 + MMF12 + MMV12 + MMIS12
+ MNTE13 + MMV13 + MMIS13

4.31 XBAL$ Net balance on current account, balance of payments basis (current dollars)

XBAL$ = X$12 + X$13 - M$12 - M$13

Sector 5. Business Employment, Hours, Labour Force and Population

5.1 NMMOB Paid employees in mining, manufacturing and other business

1Q61-4Q68 OLS

$$JID(NMMOB) = \underset{(1.56)}{.01171} - \underset{(8.30)}{.02809}\,[QC1(J1L(NMMOB))] + \underset{(9.33)}{.02771}\,[QC2(J1L(NMMOB))] + \underset{(12.56)}{.02629}\,[QC3(J1L(NMMOB))] + \underset{(4.18)}{.12174}\,[NMMOBD-J1L(NMMOB)]$$

see = .026 RB2 = .959 dw = 1.94

5.2 NC Paid employees in construction

1Q55-4Q68 OLS

$$NC = \underset{(5.58)}{.10163} - \underset{(12.11)}{.04335}\,QC1 + \underset{(8.30)}{.04209}\,QC2 + \underset{(12.66)}{.03421}\,QC3 + \underset{(4.09)}{.00005327}\,J12A(INRC+IRC) + \underset{(1.98)}{.00002920}\,[INRC+IRC-J12A(INRC+IRC)] - \underset{(4.48)}{.50393}\,(.01\,RNU) + \underset{(6.71)}{.56689}\,J1L(NC)$$

see = .007 RB2 = .983 cov = 2.08% dw = 1.61

5.5 NL Labour force

2Q57-4Q88 OLS

$$
\begin{aligned}
100\ J1D(NL/NPOP) = {} & .13462 - .76533\ QC1 + .53182\ QC2 \\
& (3.00) \quad (9.18) \quad (5.29) \\
& + 1.0125\ QC3 - .53264\ (Q1+Q2)(100\ J1D[NPOPSS/NPOP]) \\
& (12.89) \quad (5.49) \\
& - .89777\ (Q3+Q4)(100\ J1D[NPOPSS/NPOP]) \\
& (7.36) \\
& + .01688\ J1D[J4A(YDP/([PCPI][NPOP]))] \\
& (2.43) \\
& + 29.599\ J1D[J19S(NIMS-NEMS)/NPOP] \\
& (2.32)
\end{aligned}
$$

see = .187 RB2 = .982 dw = 1.79

5.6 NIMS Immigrants

1Q59-4Q68 OLS

$$100(NIMS/NPOP) = .73253 - .09575\ QC1 + .03315\ QC2 \quad (1.45)\ (10.63)\ (3.34)$$

$$+ .05988\ QC3 + JW[RNU] \quad (6.32)$$

$$+ JW[(J1L[.5071\ WQMMOB/([13\ HAWMM][PCPI])]/(.86\ EWEURO + .14[.3956\ PL2/PCON2])] + JW(NPOP)$$

t	JW[RNU]		JW[(J1L[...]	
0			.13429	(1.14)
-1			.10281	(1.14)
-2	-.01924	(5.35)	.07554	(1.14)
-3	-.01674	(6.73)	.05246	(1.14)
-4	-.01437	(8.67)	.03357	(1.14)
-5	-.01212	(10.21)	.01888	(1.14)
-6	-.01001	(9.04)	.00839	(1.14)
-7	-.00802	(6.62)	.00210	(1.14)
-8	-.00616	(4.80)		
-9	-.00443	(3.62)		
-10	-.00282	(2.83)		
-11	-.00135	(2.27)		
Sum W =	-.09524	Z1Z2	.42804	Z2

t	JW(NPOP)	
0	-.00687	(2.06)
-1	-.00601	(2.06)
-2	-.00515	(2.06)
-3	-.00429	(2.06)
-4	-.00343	(2.06)
-5	-.00258	(2.06)
-6	-.00172	(2.06)
-7	-.00086	(2.06)
Sum W =	-.03091	Z1

see = .031 RB2 = .910 cov = 12.3% dw = 1.56

5.11 NU Total unemployed persons

NU = NL - NE

5.12 NMMOBD Desired level of employment in mining, manufacturing and other business

NMMOBD = [.13182/([41.246-.009282 QTIME][ELEFF])]
[(UGPPA)/[2.943([J1L(KME)]**.205)([J1L(KNRC)]
.145)](1/.65)]

5.13 RNU The unemployment rate

RNU = 100 (NU/NL)

Sector 6. Private Sector Wages

6.1 WQMMOB Quarterly wage rate in mining, manufacturing and other business

1Q55-4Q68 OLS

```
J1P(WQMMOB) = 5.9728 QDBAD + 5.1819 QDGOOD
               (1.76)        (1.43)

    + .12633 [QC1(QDBAD)] + .74454 [QC2(QDBAD)]
      (.61)                 (4.12)

    + .83983 [QC3(QDBAD)] + .82893 [QC1(QDGOOD)]
      (4.40)                (4.79)

    - .46692 [QC2(QDGOOD)] - 1.0152 [QC3(QDGOOD)]
      (2.69)                 (6.15)

    + 29.078 ELEFF - 33.416 J1L(.001 WQMMOB/PCPI)
      (3.78)         (3.41)

    - .23865 J4L[J1P(WQMMOB)] + .33347 PCPICE
      (2.51)                    (1.53)

    + JW[.001((NL/NU)**2)]
```

t	JW[.001((NL/NU)**2)]	
0	.11960	(1.77)
-1	.10465	(1.77)
-2	.08970	(1.77)
-3	.07475	(1.77)
-4	.05980	(1.77)
-5	.04485	(1.77)
-6	.02990	(1.77)
-7	.01495	(1.77)
Sum W =	.53819	Z1

see = .486 RB2 = .787 dw = 2.12

6.2 WQC Quarterly wage rate in construction

1Q55-4Q68 OLS

$$J1P(WQC) = -\underset{(2.87)}{1.5379} + \underset{(9.83)}{3.2094}\,QC1 - \underset{(7.75)}{1.9675}\,QC2 - \underset{(5.85)}{2.7278}\,QC3 + \underset{(2.85)}{.41143}\,PCPICE + \underset{(5.30)}{.10630}\,(100/RNU) + \underset{(14.08)}{1.0872}\,J1P(HAWC)$$

see = .905 RB2 = .974 dw = 1.90

Technical Relationship

6.3 YW Wage bill

YW = (NMMOB)(WQMMOB) + (NC)(WQC) + (NFP)(WQF)
+ (NIOS)(WQIOS) + (NIS)(WQISM) + (NGPAF)(WQGPAF)
+ (NGPAPM)(WQGPAPM) + YWSLP + GWSF + GWPASPM + GWSSM
+ YWX

Sector 7. Prices

7.1 PCNDSD Price of consumer non-durables and semi-durables

1Q58-4Q68 OLS

$$\frac{PCNDSD}{(1+.01\ RTISPM)} = .12945 \quad (1.76)$$

$$- .00750\ [QC1(J1L[PCNDSD/(1+.01\ RTISPM)])] \quad (4.34)$$

$$+ .00207\ [QC2(J1L[PCNDSD/(1+.01\ RTISPM)])] \quad (1.42)$$

$$+ .00664\ [QC3(J1L[PCNDSD/(1+.01\ RTISPM)])] \quad (4.07)$$

$$+ JW[([WQC][NC]+[WQMMOB][NMMOB])/UGPPS]$$

$$+ JW(.3527\ PMFB12+.0719\ PMCM+.1606\ PMEF +.4033\ PMMF+.0115\ PMMV)$$

$$+ JW([.01\ RTISPM][J1L(PCNDSD/(1+.01\ RTISPM))])$$

where:

$$PMCM = \frac{(MCM12)(PMCM12) + .1049\ (MNTE13)(PMCM13)}{MCM12 + .1049\ MNTE13}$$

$$PMEF = \frac{(MEF12)(PMEF12) + .1918\ (MNTE13)(PMEF13)}{MEF12 + .1918\ MNTE13}$$

$$PMMF = \frac{(MMF12)(PMMF12) + .5328\ (MNTE13)(PMMF13)}{MMF12 + .5328\ MNTE13}$$

$$PMMV = \frac{(MMV12)(PMMV12) + (MMV13)(PMMV13)}{MMV12 + MMV13}$$

t	JW[([WQC...]		JW(.3527 PMFB12...)	
0	.09233	(.86)	.01150	(.31)
-1	.18448	(3.41)	.02399	(1.45)
-2	.24700	(14.61)	.02909	(1.70)
-3	.27989	(11.19)	.02679	(1.32)
-4	.28316	(6.72)	.01709	(1.13)
-5	.25681	(5.25)		
-6	.20083	(4.54)		
-7	.11523	(4.12)		
Sum W =	1.65974	Z1Z2	.10847	Z1Z2

t	JW([.01 RTISPM...])	
0	-.75102	(3.98)
-1	-.18955	(2.85)
-2	.16628	(1.80)
-3	.31648	(2.70)
-4	.26105	(2.97)
Sum W =	-.19676	Z1Z2

see = .0054 RB2 = .987 cov = .53% dw = 1.25

7.2 PCS Price of consumer services

1Q55-4Q68 OLS

$$\frac{PCS}{(1+.01\ RTISPM)} = \underset{(40.32)}{.41427}$$

$$- \underset{(2.33)}{.00277}\ [QC1(J1L[PCS/(1+.01\ RTISPM)])]$$

$$+ \underset{(1.03)}{.00121}\ [QC2(J1L[PCS/(1+.01\ RTISPM)])]$$

$$+ \underset{(.57)}{.00067}\ [QC3(J1L[PCS/(1+.01\ RTISPM)])]$$

$$+ \underset{(43.39)}{.05551}\ (.01\ WQMMOB)$$

$$- \underset{(5.62)}{.75700}\ [.01\ RTISPM][J1L(PCS/(1+.01\ RTISPM))]$$

see = .0050 RB2 = .997 cov = .51% dw = 1.56

7.3 PCMV Price of consumer motor vehicles

1Q56-4Q68 OLS

$$\frac{PCMV}{(1+.01\ RTISPM)} = -3.7841 \underset{(6.39)}{}$$

$$+ .01230 \underset{(2.41)}{} [QC1(J1L[PCMV/(1+.01\ RTISPM)])]$$

$$- .00056 \underset{(.12)}{} [QC2(J1L[PCMV/(1+.01\ RTISPM)])]$$

$$- .02468 \underset{(4.88)}{} [QC3(J1L[PCMV/(1+.01\ RTISPM)])]$$

$$+ JW[(WQMMOB)(NMMOB)/UGPPS] + JW[(PFX)(.01\ PC2)]$$

$$- .01724 \underset{(9.02)}{} QTIME - .08139 \underset{(6.03)}{} QAUTO$$

$$+ .88582 \underset{(3.00)}{} J4A(NMMOB/[(NMMOBD)(41.246-.009282\ QTIME)/$$

$$HAWMM])$$

t	JW[(WQMMOB)...]		JW[(PFX)(.01 PC2)]	
0	.58234	(1.35)	-.56148	(3.03)
-1	.74934	(2.41)	.05774	(.97)
-2	.87716	(4.16)	.42350	(5.07)
-3	.96579	(7.17)	.53579	(4.86)
-4	1.01523	(10.73)	.39463	(4.72)
-5	1.02548	(10.57)		
-6	.99655	(8.52)		
-7	.92842	(7.00)		
-8	.82111	(6.01)		
-9	.67462	(5.36)		
-10	.48893	(4.90)		
-11	.26406	(4.55)		
Sum W =	9.38903	Z1Z2	.85017	Z1Z2

see = .019 RB2 = .834 cov = 2.01% dw = 1.22

7.4 PCDO Price of other consumer durables

1Q56-4Q68 OLS

$$\frac{PCDO}{(1+.01\ RTISPM)} = -.56698 \quad (3.68)$$

$$- .00025\ [QC1(J1L[PCDO/(1+.01\ RTISPM)])] \quad (.14)$$

$$+ .00347\ [QC2(J1L[PCDO/(1+.01\ RTISPM)])] \quad (1.95)$$

$$- .00222\ [QC3(J1L[PCDO/(1+.01\ RTISPM)])] \quad (1.31)$$

$$- .00474\ QTIME + JW[(WQMMOB)(NMMOB)/UGPPS] \quad (8,54)$$

$$+ JW([.01\ RTISPM][J1L(PCDO/(1+.01\ RTISPM))])$$

$$+ JW[(PFX)(.01\ PC2)]$$

$$+ .19658\ J4A(NMMOB/[(NMMOBD)(41.246-.009282\ QTIME)/HAWMM])] \quad (2.94)$$

t		JW[(WQMMOB)...]		JW([.01 RTISPM...])	
0		.50186	(2.00)	-.31374	(2.02)
-1		.72978	(9.77)	-.20080	(2.02)
-2		.79356	(8.55)	-.11295	(2.02)
-3		.69319	(5.25)	-.05020	(2.02)
-4		.42867	(4.18)	-.01255	(2.02)
Sum W	=	3.14705	Z1Z2	-.69023	Z2

t	JW[(PFX)(.01 PC2)]	
0	.12868	(3.58)
-1	.08235	(3.58)
-2	.04632	(3.58)
-3	.02059	(3.58)
-4	.00515	(3.58)
Sum W =	.28309	Z2

see = .007 RB2 = .947 cov = .71% dw = .73

7.5 PIME Price deflator for business investment in machinery and equipment

1Q54-4Q68 OLS

$$\frac{PIME}{(1+.0012\ RTISFS+.0088\ RTISFME)} = -.20514 \quad (2.89)$$

$$+ JW[(WQMMOB)(NMMOB)/UGPPS] + JW[(PFX)(.01\ PPD2)]$$

$$+ JW(.01\ PPD2) + JW[J4A(UGPPA/UGPPD)]$$

$$+ JW([.0012\ RTISFS+.0088\ RTISFME][J1L(PIME/(1+.0012\ RTISFS+.0088\ RTISFME))])$$

t	JW[(WQMMOB)...]		JW[(PFX)(.01 PPD2)]	
0	.22898	(4.36)	.29535	(6.78)
-1	.14655	(4.36)	.12922	(14.11)
-2	.08243	(4.36)	.01662	(.91)
-3	.03664	(4.36)	-.04245	(1.62)
-4	.00916	(4.36)	-.04799	(2.38)
Sum W =	.50375	Z2	.35075	Z1Z2

t	JW(.01 PPD2)		JW[J4A(UGPPA...)]	
0	-.03339	(.37)	.11217	(3.68)
-1	.06901	(3.29)	.07179	(3.68)
-2	.12355	(5.01)	.04038	(3.68)
-3	.13023	(3.11)	.01795	(3.68)
-4	.08904	(2.64)	.00449	(3.68)
Sum W =	.37843	Z1Z2	.24678	Z2

t	JW([.0012 RTISFS...])	
0	-.37241	(9.93)
-1	-.14382	(11.93)
-2	.00772	(.61)
-3	.08221	(4.53)
-4	.07963	(5.59)
Sum W =	-.34667	Z1Z2

see = .0053 RB2 = .996 cov = .54% dw = 1.03

7.6 PIRC Price deflator for private investment in residential construction

1Q54-4Q68 OLS

PIRC = .08101 + JW(.001 WQC) + JW(PRM)
(1.90)

t	JW(.001 WQC)		JW(PRM)	
0	.10349	(7.38)	.06363	(.92)
-1	.04599	(7.38)	.15985	(9.10)
-2	.01150	(7.38)	.20159	(6.81)
-3			.18887	(4.59)
-4			.12167	(3.85)
Sum W =	.16098	Z2	.73560	Z1Z2

see = .0102 RB2 = .992 cov = .98% dw = .82

7.7 PINRC Price deflator for business investment in non-residential construction

1Q54-4Q68 OLS

PINRC = .20781 + .08498 (.001 WQC) + JW(PNRM)
(1.74) (1.78)

+ .00049 [QC1(.001 WQC)] + .00093 [QC2(.001 WQC)]
(.20) (.39)

- .00619 [QC3(.001 WQC)]
(2.10)

t	JW(PNRM)	
0	.60485	(5.60)
-1	.26133	(5.94)
-2	.02908	(.54)
-3	-.09189	(1.41)
-4	-.10159	(2.10)
Sum W =	.70177	Z1Z2

see = .0128 RB2 = .977 cov = 1.23% dw = .58

7.8 PKIB Price of the nonfarm business inventory stock

1Q54-4Q68 OLS

$$PKIB = \underset{(2.70)}{.15664} + \underset{(16.47)}{.65086}\ PCPI - \underset{(2.02)}{.00041}\ QTIME + \underset{(7.12)}{.26515}\ J4A(UGPPA/UGPPD)$$

see = .0055 RB2 = .989 cov = .52% dw = .56

7.9 PRM Price index for residential construction materials

1Q56-4Q68 OLS

$$\frac{PRM}{1+.54\ RTISFR/100+.54\ RTISFR} = \underset{(7.27)}{-.79000} + \underset{(2.76)}{.00664}\left(QC1\left[J1L\left(\frac{PRM}{1+.54\ RTISFR/100+.54\ RTISFR}\right)\right]\right)$$

$$+ \underset{(1.70)}{.00383}\left(QC2\left[J1L\left(\frac{PRM}{1+.54\ RTISFR/100+.54\ RTISFR}\right)\right]\right)$$

$$- \underset{(.90)}{.00209}\left(QC3\left[J1L\left(\frac{PRM}{1+.54\ RTISFR/100+.54\ RTISFR}\right)\right]\right)$$

$$+ \underset{(4.37)}{.29744}\ J4A(UGPPA/UGPPD) + JW[(WQMMOB)(NMMOB)/UGPPS]$$

$$+ JW(PXFP)$$

t	JW[(WQMMOB)...]		JW(PXFP)	
0	1.01986	(36.06)	.57862	(6.67)
-1	.65271	(36.06)	.22971	(12.52)
-2	.36715	(36.06)	-.00261	(.07)
-3	.16318	(36.06)	-.11834	(2.19)
-4	.04079	(36.06)	-.11746	(2.83)
Sum W	2.24369	Z2	.56991	Z1Z2

see = .0099 RB2 = .984 cov = .93% dw = .52

7.10 PNRM Price index for non-residential construction materials

1Q56-4Q68 OLS

$$\frac{PNRM}{1+.46\ RTISFR} = \underset{(1.31)}{.07262}$$

$$+ \underset{(1.62)}{.00220}\ (QC1[J1L(\frac{PNRM}{1+.46\ RTISFR})])$$

$$+ \underset{(1.61)}{.00214}\ (QC2[J1L(\frac{PNRM}{1+.46\ RTISFR})])$$

$$+ \underset{(.01)}{.000019}\ (QC3[J1L(\frac{PNRM}{1+.46\ RTISFR})])$$

$$+ \underset{(4.17)}{.16659}\ J4A(UGPPA/UGPPD) + JW[(WQMMOB)(NMMOB)/UGPPS]$$

$$+ JW([(.01\ RCNR)(PINRC)(KNRC)+(.01\ RCME)(PIME)(KME)]/UGPPS)$$

$$+ JW(PXFP)$$

t		JW[(WQMMOB)...]		JW([(.01 RNCR...)	
0		.61962	(17.41)	.20576	(5.71)
-1		.39655	(17.41)	.13169	(5.71)
-2		.22306	(17.41)	.07407	(5.71)
-3		.09914	(17.41)	.03292	(5.71)
-4		.02478	(17.41)	.00823	(5.71)
Sum W	=	1.36315	Z2	.45267	Z2

t		JW(PXFP)	
0		.06137	(3.79)
-1		.03927	(3.79)
-2		.02209	(3.79)
-3		.00982	(3.79)
-4		.00245	(3.79)
Sum W	=	.13501	Z2

see = .0057 RB2 = .989 cov = .55% dw = .76

7.11 PXNMV12 Price index for exports of goods (excluding uranium, aircraft and parts, and motor vehicles and parts) to the United States

1Q53-4Q68 OLS

PXNMV12 = - .19996 + .003791 QC1 - .000775 QC2
(3.05) (2.11) (.44)

- .004497 QC3 + .21392 (.58 PCNDSD+.09 PCDO+.33 PIME)
(2.55) (2.73)

+ .63475 PXFP + .18865 (.01 PXBNF2)(PFX) + JW(PFX)
(16.00) (3.17)

t		JW(PFX)	
0		.03003	(2.53)
-1		.04505	(2.53)
-2		.04505	(2.53)
-3		.03003	(2.53)
Sum W	=	.15017	ZC2

see = .008 RB2 = .980 cov = .78% dw = .97

7.12 PXNW13 Price index for exports of goods (excluding wheat, uranium, and aircraft and parts) to other countries

1Q57-4Q68 OLS

PXNW13 = - .55622 + .01707 QC1 - .00541 QC2 - .00892 QC3
(8.28) (4.45) (1.45) (2.36)

+ 1.2744 [.7(.58 PCNDSD+.09 PCDO+.33 PIME)+.3(PXFP)]
(15.37)

+ .40165 (PFX)(PWXG) + JW(PFX)
(3.12)

t		JW(PFX)	
0		.30730	(2.03)
-1		-.03968	(.91)
-2		-.20656	(2.59)
-3		-.19333	(2.59)
Sum W	=	-.13227	Z1Z2

see = .015 RB2 = .968 cov = 1.41% dw = .84

7.13 PMFB12 Price index for imports of food and beverages from the United States (SITC 0, 1)

1Q58-4Q68 OLS

$$J4P[PMFB12/PFX] = \underset{(1.12)}{-\ 2.0757} + \underset{(1.57)}{1.3865}\ J4P[.8339((EC0\$2-EC\$2)/(EC02-EC2)) + .0276(.01\ PEGF2) + .0164(.01\ PI2) + .1221(.01\ PEEX2)]$$

see = 5.29 RB2 = .033 dw = .89

7.14 PMCM12 Price index for imports of crude materials from the United States (SITC 2, 4)

1Q58-4Q68 OLS

$$J4P[PMCM12/PFX] = \underset{(3.40)}{-\ 2.0416} + \underset{(2.73)}{.90044}\ J4P[.4118((EC0\$2-EC\$2)/(EC02-EC2)) + .0273(.01\ PEGF2) + .0170(.01\ PI2) + .5439(.01\ PEEX2)]$$

see = 2.58 RB2 = .131 dw = .80

7.15 PMEF12 Price index for imports of energy fuels from the United States (SITC 3)

1Q58-4Q68 OLS

$$J4P[PMEF12/PFX] = -3.2042 \underset{(4.88)}{} + 1.7385\ J4P[.6005((ECO\$2-EC\$2)/(ECO2-EC2)) \underset{(5.43)}{}$$
$$+.0846(.01\ PPS2)+.0715(.01\ PEGF2)$$
$$+.0135(.01\ PI2)+.2298(.01\ PEEX2)]$$

see = 1.96 RB2 = .398 dw = .72

7.16 PMMF12 Price index for imports of manufactures (excluding transportation equipment) from the United States (SITC 5-8 [excluding transportation equipment])

1Q58-4Q68 OLS

$$J4P[PMMF12/PFX] = .29588 \underset{(1.41)}{} - .88885\ J4P[.1556((ECO\$2-EC\$2)/(ECO2-EC2)) \underset{(7.08)}{}$$
$$+.3345(.01\ PC2)+.2897(.01\ PPD2)$$
$$+.0006(.01\ PPS2)+.0865(.01\ PEGF2)$$
$$+.0130(.01\ PI2)+.1200(.01\ PEEX2)]$$
$$+ JW[J4P(PFX)]$$

t	JW[J4P(PFX)]	
-1	-.09296	(3.17)
-2	-.05229	(3.17)
-3	-.02324	(3.17)
-4	-.00581	(3.17)
Sum W =	-.17430	Z2

see = .665 RB2 = .710 dw = .61

7.17 PGCNWG Price deflator for government current nonwage expenditure

1Q55-4Q68 OLS

PGCNWG = .23032
(1.72)

+ [JW(PCS)][1-(GGSDF-GMPF)/(GCNWF+GCNWPM+GCGSH)]

+ [JW(PMMF12)][(GGSDF-GMPF)/(GCNWF+GCNWPM+GCGSH)]

t		[JW(PCS)][...]		[JW(PMMF12)][...]	
0		.09437	(8.54)	.05925	(2.99)
-1		.15728	(8.54)	.09875	(2.99)
-2		.18873	(8.54)	.11849	(2.99)
-3		.18873	(8.54)	.11849	(2.99)
-4		.15728	(8.54)	.09875	(2.99)
-5		.09437	(8.54)	.05925	(2.99)
Sum W	=	.88076	ZC2	.55298	ZC2

see = .028 RB2 = .955 cov = 2.85% dw = 1.18

7.18 PINRCG Price deflator for government investment in non-residential construction

1Q61-4Q68 OLS

PINRCG = - .20178 + 1.2222 PINRC
(4.04) (26.80)

see = .0202 RB2 = .959 cov = 1.78% dw = .67

7.19 PIMEG Price deflator for government investment in machinery and equipment

1Q61-4Q68 OLS

PIMEG = .48079 + .51628 PIME
(11.22) (13.15)

see = .0119 RB2 = .847 cov = 1.14% dw = .81

7.20 PCPI The Consumer Price Index

1Q52-4Q68 OLS

PCPI = - .09306 + 1.09195 (.051 PCMV+.062 PCDO+.308 PCS
(24.47) (288.81)

+.550 PCNDSD+.029 PIRC)

+ .00210 [QC1(.051 PCMV+.062 PCDO+.308 PCS
(3.85)

+.550 PCNDSD+.029 PIRC)]

- .00270 [QC2(.051 PCMV+.062 PCDO+.308 PCS
(5.00)

+.550 PCNDSD+.029 PIRC)]

- .00102 [QC3(.051 PCMV+.062 PCDO+.308 PCS
(1.90)

+.550 PCNDSD+.029 PIRC)]

see = .0026 RB2 = .9992 cov = .26% dw = 1.28

Technical Relationships

7.21 PGNE Price deflator for gross national expenditure

```
PGNE = YGNE/[CNDSD+CS-CMV+CDO+IME+INRC+IRC+IIB+IIF+IIG
           +INRCGF+IH+INRCGPM+INRCSM+IMEGF+IMEGPM+X-M
           +[(GCNWF+GCNWPM+GCGSH)/PGCNWG]+EG61MPF
           +1434.0285 NIS+1297.1399 NGPAF+921.23014
           NGPAPM+603.68732[(GWIF+GWIPM)/WQIOS]+ENARES]
```

7.22 PGPP Price deflator for gross private business product

```
PGPP = YGPP/[(YGNE/PGNE)-1434.0285 NIS-1297.1399 NGPAF
           -921.23014 NGPAPM+ENARES-(YFA/PYFA)
           -551.56098 NFP-EG61MPF-603.68732 NIOS]
```

7.23 PCSMVOD Implicit price deflator for imputed consumer services from the stocks of motor vehicles and of other consumer durables

```
PCSMVOD = [.06656 J1L[(KMV)(PCMV)+(KDO)(PCDO)]
          +.055(CDO)(PCDO)+.0273(CMV)(PCMV)]/CSMVOD
```

Sector 8. Income Components

8.1 YC Corporate profits before tax

1Q55-4Q68 OLS

$$YC = -18.532 - 1.9397\ (ECINT+CCAC\$) \quad (.97)\ (9.61)$$
$$+\ .94608\ (YGPP-YNFNC-TILGS) \quad (24.73)$$
$$-\ .95580\ [(WQMMOB)(NMMOB)+(WQC)(NC)+YWSLP] \quad (18.83)$$

see = 39.2 RB2 = .990 cov = 3.17% dw = 2.05

8.2 YDIV11 Dividends paid to Canadian residents by Canadian corporations

1Q57-4Q68 OLS

$$YDIV11 = .05744\ J4S[(YC+CCAC\$-TCA)(1-(LDIRV12+LPCV12+LDIPRV13)/KB\$)] \quad (138.8)$$
$$-\ .000194\ [QC1][J4S([YC+CCAC\$-TCA][1-(LDIRV12+LPCV12+LDIPRV13)/KB\$])] \quad (.26)$$
$$-\ .003119\ [QC2][J4S([YC+CCAC\$-TCA][1-(LDIRV12+LPCV12+LDIPRV13)/KB\$])] \quad (4.32)$$
$$-\ .002545\ [QC3][J4S([YC+CCAC\$-TCA][1-(LDIRV12+LPCV12+LDIPRV13)/KB\$])] \quad (3.58)$$

see = 8.31 RB2 = .979 cov = 5.27% dw = .98

8.3 YDIVF Dividends (before withholding tax) paid to foreign shareholders by Canadian corporations

1Q57-4Q68 OLS

```
YDIVF = .04125 J4S([YC+CCAC$-TCA]/(LDIRV12+LPCV12
        (5.33)
                                        +LDIPRV13)/KB$])
      - .00259 [QC1]*[J4S([YC+CCAC$-TCA]/(LDIRV12+LPCV12
        (1.43)
                                        +LDIPRV13)/KB$])]
      - .00693 [QC2]*[J4S([YC+CCAC$-TCA]/(LDIRV12+LPCV12
        (3.08)
                                        +LDIPRV13)/KB$])]
      - .00507 [QC3]*[J4S([YC+CCAC$-TCA]/(LDIRV12+LPCV12
        (2.56)
                                        +LDIPRV13)/KB$])]
      + .27155 J4L(YDIVF)
        (1.87)
```

see = 21.22 RB2 = .859 cov = 12.67% dw = 2.17

Technical Relationships

8.4 YGNE Gross national expenditure

```
YGNE = (CNDSD)(PCNDSD) + (CS)(PCS) + (CMV)(PCMV)
     + (CDO)(PCDO) + (IME)(PIME) + (INRC)(PINRC)
     + (IH)(PIH) + (IRC)(PIRC) + [J1D((PKIB)(KIB))+YIVA]
     + IIF$ + IIG$ + (INRCGF+INRCGPM+INRCSM)(PINRCG)
     + (IMEGF+IMEGPM)(PIMEG) + GCNWF + GCNWPM
     + (NGPAF)(WQGPAF) + GCGSH + GWIF + GWSF
     + (NGPAPM)(WQGPAPM) + GWPASPM + GWIPM + (NIS)(WQISM)
     + GWSSM + GMPF + XBAL$ - TWF - XIH$ - XTRP$
     + MIH$ + MTRP$ + GTNRF + ENARES$
```

8.5 YGPP Gross private business product

YGPP = YGNE - (NGPAF)(WQGPAF) - GWSF - (NGPAPM)(WQGPAPM)
- GWPASPM - (NIS)(WQISM) - GWSSM - (NFP)(WQF) - GMPF
- (NIOS)(WQIOS) + ENARES$ - YFA

8.6 YDW Disposable wage income

YDW = YW + GMPF + [1-(TPS/YWAS)](YNFNC) + GTPOF
+ GTPUIBF + GTPPM - TPS - TRSIGPR - TUIRF - TRHPMPR
- TROPMPR - TRFPR - TRHPR - TCPPF - TQPPPM + YPCCB
+ XTRP$

8.7 YRES Simulation residual defined as zero throughout sample period

YRES = YGNE - YW - GMPF - YC + YDIVF - YNFNC - YFA - YIVA
- TILGS - CCA$ + ENARES$ - YMISC - XID$12 - XID$13
+ MINT$12 + MID$13 + MDIV$12 - YGIPM - YGIF - YGIH
- TCAGBE

8.8 YP Personal income

YP = YW + GMPF + YF + YNFNC + YRES + GTPOF + GTPUIBF
+ GTPPM + XTRP$ + GTPINTF + GTPINTPM + YDIV11
+ YPCCB + YMISC + XID$12 + XID$13 - MINT$12 - MID$13
- MDIV$12 + YMISCP

8.9 YDP Disposable personal income

YDP = YP - TPS - TPO - TOPF - TOPPM - TRHPMPR - TROPMPR
- TRFPR - TRHPR - TRMVPMPR - TCPPF - TQPPPM - TUIRF

8.10 YCR Retained corporate profits

```
YCR = YC - TCA - YDIVF - YDIV11 - YPCCB + TCAGBE
```

8.11 YPDNWP Permanent disposable nonwage personal income

```
YPDNWP = .25 [(J2A[.01 RHOR])(J2A[(VKB)
              (1-.01 RVB12-.01 RVB13)])+J4S[XID$12+XID$13
              +.01156 J1L([KDO][PCDO]+[KMV][PCMV])]
              +.04624(J2A[(8.878 SHM+14.797 SHS)(PIRC)])
              +.01(RL-PCPICE)(J2A[VLGB11+LGFTB-LGFTBNR
              +ABBCD+ABBCN+ANFCUR-DDGFB+LGFCSB])]
              -[.3981 TANW+TOPF+TOPPM+TRMVPMPR-TRSIGPR
              -(TPS/YWAS)(YNFNC)]
```

8.12 YKGP Capital gains, realized and accrued, on equities and bonds

```
YKGP = J1D[(VKB)(1-.01 RVB12-.01 RVB13)]-(1-.01 RVB12
       -.01 RVB13)[J1D[(PKIB)(KIB)]+YIVA+(PIME)(IME
       -.05 J1L[KME])+(PINRC)(INRC-.01 J1L[KNRC])]
       +(J1D[PLGI])(J2A[LGBF+LGBPM-LGB12-LGB13])
```

Sector 9. Direct Taxes and Other Current Transfers from Persons

Personal Income Tax

9.1 TPS — Personal income tax collections withheld at source

1Q54-4Q68 OLS

$$TPS = \underset{(89.65)}{1.15517}\ JW(TAW) - \underset{(2.19)}{.01428}\ (Q1[JW(TAW)]) - \underset{(19.20)}{.12669}\ (Q2[JW(TAW)])$$

t	JW(TAW)	(Q1[JW(TAW)])	(Q2[JW(TAW)])
0	.667		
-1	.333	1.0	
-2		1.0	1.0
-3		1.0	1.0
-4		1.0	1.0
-5			1.0

see = 39.23 RB2 = .982 cov = 8.04% dw = 2.30

9.2 TP0 — Personal income tax collections not withheld at source

1Q54-4Q68 OLS

$$TP0 = \underset{(46.30)}{.27166}\ (Q1[JW(TANW)]) + \underset{(138.45)}{.81236}\ (Q2[JW(TANW)]) + \underset{(46.63)}{.27360}\ (Q3[JW(TANW)]) + \underset{(40.01)}{.23478}\ (Q4[JW(TANW)])$$

t	(Q1[JW...])	(Q2[JW...])	(Q3[JW...])	(Q4[JW...])
-1	1.0			
-2	1.0	1.0		
-3	1.0	1.0	1.0	
-4	1.0	1.0	1.0	1.0
-5		1.0	1.0	1.0
-6			1.0	1.0
-7				1.0

see = 9.99 RB2 = .994 cov = 6.15% dw = 1.32

9.3 TPYPM Provincial personal income tax collections

2Q62-4Q68 OLS

```
TPYPM = 1.09574 JW[(.01 RTPYFB1C)[YWAS1C+YNWAS1C
        (55.93)
                -(NTW1C)(ZEXYW1C)-(NTNW1C)(ZEXYNW1C)]
                +(.01 RTPYFB2C)[YWAS2C+YNWAS2C
                -(NTW2C)(ZEXYW2C)-(NTNW2C)(ZEXYNW2C)]
                +(.01 RTPYFB3C)[YWAS3C+YNWAS3C
                -(NTW3C)(ZEXYW3C)-(NTNW3C)(ZEXYNW3C)]
                +(.01 RTPYFB4C)[YWAS4C+YNWAS4C
                -(NTW4C)(ZEXYW4C)-(NTNW4C)(ZEXYNW4C)]
                -(EYDIVA11)(YDIV11)(.01 RDC)]
```

t	JW[...]
0	.01(.333 RTPYPXQ+.667 RTPYPQ)
-1	.01[.667 J1L(RTPYPXQ)+.333 J1L(RTPYPQ)]

see = 24.13 RB2 = .966 cov = 10.64% dw = 2.49

Technical Relationships

9.4 TPYF Federal personal income tax collections

```
TPYF = TPS + TPO - TPYPM
```

9.5 TAW Personal income tax accruals on wage income

```
TAW = [(.01 RTPYFB1C)(RTPSUR)+.01 RTPYF1C][YWAS1C
      -(NTW1C)(ZEXYW1C)]
      + [(.01 RTPYFB2C)(RTPSUR)+.01 RTPYF2C][YWAS2C
      -(NTW2C)(ZEXYW2C)]
      + [(.01 RTPYFB3C)(RTPSUR)+.01 RTPYF3C][YWAS3C
      -(NTW3C)(ZEXYW3C)]
      + [(.01 RTPYFB4C)(RTPSUR)+.01 RTPYF4C][YWAS4C
      -(NTW4C)(ZEXYW4C)]
```

where:

```
RTPSUR = .01 (RTPYPXQ+RTPYPQ-RFAXQ-RFAQ)
```

9.6 TANW Personal income tax accruals on nonwage income

```
TANW = [(.01 RTPYFB1C)(RTPSUR)+.01 RTPYF1C][YNWAS1C
       -(NTNW1C)(ZEXYNW1C)]
       + [(.01 RTPYFB2C)(RTPSUR)+.01 RTPYF2C][YNWAS2C
       -(NTNW2C)(ZEXYNW2C)]
       + [(.01 RTPYFB3C)(RTPSUR)+.01 RTPYF3C][YNWAS3C
       -(NTNW3C)(ZEXYNW3C)]
       + [(.01 RTPYFB4C)(RTPSUR)+.01 RTPYF4C][YNWAS4C
       -(NTNW4C)(ZEXYNW4C)]
       -(.01 RDC)(EYDIVA11)(YDIV11)(1+RTPSUR)
```

where:

RTPSUR = .01(RTPYPXQ+RTPYPQ-RFAXQ-RFAQ)

9.7 NT Tax returns filed

NT = 1.2471(NE+NOAPR) - 2.6669

9.8 YWAS Assessed wage income

YWAS = .8399(YW+GMPF-YWSLP-GWSF-GWPASPM-GWSSM)
+ .0045775(YW+GMPF-YWSLP-GWSF-GWPASPM-GWSSM)(QTSTEP)

9.9 YNWAS Assessed nonwage income

YNWAS = .32886(YP-GMPF-YW-YDIV11)
+ .00503153(YP-GMPF-YW-YDIV11)(QTSTEP)
+ (EYDIVA11)(YDIV11)

9.10 NT1C Tax returns filed, income class 1

NT1C = (ENT1C)(NT)

9.11 NT2C Tax returns filed, income class 2

NT2C = (ENT2C)(NT)

9.12 NT3C Tax returns filed, income class 3

NT3C = (ENT3C)(NT)

9.13 NT4C Tax returns filed, income class 4

NT4C = NT - (NT1C+NT2C+NT3C)

9.14 YWAS1C Assessed wage income, income class 1

YWAS1C = (EYWAS1C)(YWAS)

9.15 YWAS2C Assessed wage income, income class 2

YWAS2C = (EYWAS2C)(YWAS)

9.16 YWAS3C Assessed wage income, income class 3

YWAS3C = (EYWAS3C)(YWAS)

9.17 YWAS4C Assessed wage income, income class 4

YWAS4C = YWAS - (YWAS1C+YWAS2C+YWAS3C)

9.18 YNWAS1C Assessed nonwage income, income class 1

YNWAS1C = (EYNWAS1C)(YNWAS)

9.19 YNWAS2C Assessed nonwage income, income class 2

YNWAS2C = (EYNWAS2C)(YNWAS)

9.20 YNWAS3C Assessed nonwage income, income class 3

YNWAS3C = (EYNWAS3C)(YNWAS)

9.21 YNWAS4C Assessed nonwage income, income class 4

YNWAS4C = YNWAS - (YNWAS1C+YNWAS2C+YNWAS3C)

9.22 NTW1C Wage earners tax returns filed, income class 1

NTW1C = [YWAS1C/(YWAS1C+YNWAS1C)](NT1C)

9.23 NTW2C Wage earners tax returns filed, income class 2

NTW2C = [YWAS2C/(YWAS2C+YNWAS2C)](NT2C)

9.24 NTW3C Wage earners tax returns filed, income class 3

NTW3C = [YWAS3C/(YWAS3C+YNWAS3C)](NT3C)

9.25 NTW4C Wage earners tax returns filed, income class 4

NTW4C = [YWAS4C/(YWAS4C+YNWAS4C)](NT4C)

9.26 NTNW1C Nonwage earners tax returns filed, income class 1

NTNW1C = NT1C - NTW1C

9.27 NTNW2C Nonwage earners tax returns filed, income class 2

NTNW2C = NT2C - NTW2C

9.28 NTNW3C Nonwage earners tax returns filed, income class 3

NTNW3C = NT3C - NTW3C

9.29 NTNW4C Nonwage earners tax returns filed, income class 4

NTNW4C = NT4C - NTW4C

Transfers from Persons to Provincial-Municipal Governments

9.30 TRHPMPR Hospital and medical care insurance premiums

1Q60-4Q69 OLS-HL

$$TRHPMPR = \underset{(4.99)}{.09292}\ [QC1(JW[(ERTPHPM)(NL)])] - \underset{(.04)}{.000789}\ [QC2(JW[(ERTPHPM)(NL)])] - \underset{(6.43)}{.10785}\ [QC3(JW[(ERTPHPM)(NL)])] + \underset{(48.22)}{1.10326}\ JW[(ERTPHPM)(NL)] + \underset{(17.39)}{.81714}\ JW[(ERMEDPM)(NL)]$$

t	JW[(ERTPHPM)(NL)]	JW[(ERMEDPM)(NL)]
0	.667	.667
-1	.333	.333

see = 3.26 RB2 = .974 car = .426 dw = 1.78

9.31 TRMVPMPR Motor vehicle licences and permits, persons

1Q52-4Q68 OLS

$$TRMVPMPR = \underset{(54.84)}{.18554}\ (UKRMVNC)(ERTPMVPM) + \underset{(50.61)}{.29662}\ (QC1[(UKRMVNC)(ERTPMVPM)]) - \underset{(2.56)}{.01499}\ (QC2[(UKRMVNC)(ERTPMVPM)]) - \underset{(22.97)}{.13546}\ (QC3[(UKRMVNC)(ERTPMVPM)])$$

see = 2.65 RB2 = .979 cov = 16.15% dw = 1.58

Technical Relationship

9.32 UKRMVNC Stock of noncommercial registered motor vehicles (million vehicles)

$$UKRMVNC = 1.3191 + .00055667\ KMV + .0012780(KMV)(NU/NL)$$

Corporation Income Tax

9.33 TCA Corporation income tax accruals

1Q53-4Q68 OLS

$$TCA = \underset{(315.91)}{1.01549}\ (.01\ RTCA)(YCT) + TCAPLMT - EDTCA$$

see = 11.94 RB2 = .992 cov = 2.64% dw = 1.52

9.34 YCT Taxable corporate profits

1Q55-4Q68 OLS

$$YCT = \underset{(2.15)}{108.43} + \underset{(11.05)}{.78556}\ (YC-YPCCB-TCAPLMT)$$
$$+ \underset{(2.52)}{.86722}\ (YC-YPCCB-TCAPLMT)(.01\ RNU)$$
$$- \underset{(2.09)}{.00173}\ (YC-YPCCB-TCAPLMT)(QTIME)$$
$$- \underset{(8.03)}{.66351}\ ECCA63A - \underset{(1.66)}{.19926}\ ECCA66R$$

see = 30.92 RB2 = .983 cov = 3.14% dw = 1.90

9.35 TCAF Federal corporation income tax accruals

1Q53-4Q68 OLS-HL

$$TCAF = \underset{(197.33)}{1.02169}\ (.01\ RTCAF)(YCT) - EDTCA$$

see = 7.36 RB2 = .984 car = .552 dw = 2.13

Technical Relationship

9.36 TCAPM Provincial corporation income tax accruals

TCAPM = TCA - TCAF

Sector 10. Indirect Taxes and Other Government Revenue

10.1 TISF Manufacturers sales tax

1Q55-4Q68 OLS

$$TISF = \underset{(69.48)}{.59372}\ (.01\ RTISFS)[(CNDSD)(PCNDSD)+(CMV)(PCMV)+(CDO)(PCDO)]$$
$$+ \underset{(13.48)}{.46696}\ ([.46\ RTISFR][(INRC)(PINRC)+(INRCGF+INRCGPM+INRCSM)(PINRCG)+(IH)(PIH)]/[100+.46\ RTISFR]+[.54\ RTISFR][(IRC)(PIRC)]/[100+.54\ RTISFR]+[.88(.01\ RTISFME)+.12(.01\ RTISFS)][(IME)(PIME)+(IMEGF+IMEGPM)(PIMEG)])$$

see = 20.40 RB2 = .974 cov = 6.24% dw = 1.77

10.2 TICUSF Customs duties

1Q55-4Q68 OLS

$$TICUSF = \underset{(1.24)}{-\ 11.3488} + \underset{(12.21)}{.11471}\ [MG\$-(QDCARS)(MMV12)(PMMV12)]$$
$$+ \underset{(.50)}{.0004097}\ (QC1[MG\$-(QDCARS)(MMV12)(PMMV12)])$$
$$- \underset{(2.37)}{.0016753}\ (QC2[MG\$-(QDCARS)(MMV12)(PMMV12)])$$
$$+ \underset{(.52)}{.0003173}\ (QC3[MG\$-(QDCARS)(MMV12)(PMMV12)])$$
$$- \underset{(5.15)}{.006029}\ (QDKEN)[MG\$-(QDCARS)(MMV12)(PMMV12)]$$
$$- \underset{(4.46)}{.0003397}\ (QTIME)[MG\$-(QDCARS)(MMV12)(PMMV12)]$$
$$- \underset{(4.31)}{.38416}\ (QDXINC)(XMV12) + \underset{(11.14)}{.97596}\ (ESUR)(MG\$)$$

where:

MG$ = M$12 + M$13 - MINT$12 - MDIV$12 - MTR$12 - MFS$12
- MOS$12 - MID$13 - MTR$13 - MFS$13 - MOS$13

see = 4.38 RB2 = .976 cov = 2.95% dw = 1.43

10.3 TIEXF Excise taxes and duties (excluding manufacturers sales tax)

1Q55-4Q68 OLS

$$TIEXF = \underset{(7.47)}{48.981} + \underset{(2.50)}{.02567}\ (QDTIEXF)(CMV)(PCMV) + \underset{(20.43)}{.02776}\ [(CNDSD)(PCNDSD)+(CDO)(PCDO)]$$

see = 8.06 RB2 = .926 cov = 4.92% dw = 1.83

10.4 TISPM Retail sales tax

1Q53-4Q68 OLS

$$TISPM = \underset{(126.33)}{1.07241}\ ([.01\ RTISPM/(1+.01\ RTISPM)]\ [JW([CNDSD][PCNDSD]+[CMV][PCMV]+[CDO][PCDO])])$$

t	[JW([CNDSD...])]
0	.667
-1	.333

see = 10.59 RB2 = .990 cov = 8.20% dw = 2.19

10.5 TIGASPM Gasoline tax

1Q59-4Q68 OLS

TIGASPM = 1.00179 [(ERGAS)(EGAS)(UKRMVNC)
(115.82)

+(ERDO)(EDO)(.00009392 KME)]

see = 8.40 RB2 = .969 cov = 5.72% dw = 2.11

10.6 TIMVPM Motor vehicle licences and permits, business

1Q52-4Q68 OLS

TIMVPM = .276097 [(.00009392 KME)(ERTIMVPM)]
(40.59)

+ .386610 (QC1[(.00009392 KME)(ERTIMVPM)])
(32.28)

+ .018301 (QC2[(.00009392 KME)(ERTIMVPM)])
(1.55)

- .190882 (QC3[(.00009392 KME)(ERTIMVPM)])
(16.29)

see = 5.48 RB2 = .952 cov = 21.68% dw = 1.51

10.7 TWF Non-resident withholding tax

1Q61-4Q68 OLS

$$TWF = \underset{(2.20)}{-\ 10.335} + \underset{(10.79)}{.20191}\ (MINT\$12+MDIV\$12+MID\$13)$$

$$- \underset{(.71)}{.00453}\ [QC1(MINT\$12+MDIV\$12+MID\$13)]$$

$$+ \underset{(5.11)}{.03207}\ [QC2(MINT\$12+MDIV\$12+MID\$13)]$$

$$- \underset{(3.39)}{.02284}\ [QC3(MINT\$12+MDIV\$12+MID\$13)]$$

see = 4.82 RB2 = .893 cov = 11.83% dw = 1.40

Technical Relationship

10.8 TILGS Indirect taxes less subsidies

TILGS = TISF + TICUSF + TIEXF + TISPM + TIGASPM
+ TIMVPM + TIOF + TIOPM - GSUBSF - GSUBSPM

Sector 11. Transfers to Persons

11.1 TUIRF Unemployment Insurance Fund revenue

1Q60-4Q68 OLS

$$TUIRF = \underset{(7.78)}{1.15034}\,[QC1(NEMPS)] - \underset{(11.00)}{1.57257}\,[QC2(NEMPS)] + \underset{(.67)}{.09253}\,[QC3(NEMPS)] + \underset{(236.91)}{19.7740}\,NEMPS + \underset{(12.04)}{5.11389}\,(NEMPS)[J1L(QDUIF)]$$

see = 1.95 RB2 = .974 cov = 2.46% dw = 1.39

11.2 GTPUIBF Unemployment insurance benefits

1Q60-4Q68 OLS

$$GTPUIBF = \underset{(7.07)}{.52977}\,(QC1[(ERUIB)(NCL)]) + \underset{(25.47)}{2.50966}\,(QC2[(ERUIB)(NCL)]) - \underset{(4.84)}{.66232}\,(QC3[(ERUIB)(NCL)]) + \underset{(121.17)}{7.54519}\,(ERUIB)(NCL) - \underset{(2.64)}{.57772}\,(ERUIB)(NCL)(QDUIF)$$

see = 3.73 RB2 = .995 cov = 3.81% dw = 1.18

11.3 NINS Enrollment in the Unemployment Insurance Fund

1Q60-4Q68 OLS-HL

$$
\begin{aligned}
NINS = {} & .006778\ [QC1(NE-NEUPF-NEUPB-NFP)] \\
& (1.05) \\
& + .00326\ [QC2(NE-NEUPF-NEUPB-NFP)] \\
& (.49) \\
& - .015216\ [QC3(NE-NEUPF-NEUPB-NFP)] \\
& (2.06) \\
& + .810690\ (NE-NEUPF-NEUPB-NFP) \\
& (12.08) \\
& - .001571\ (NE-NEUPF-NEUPB-NFP)(QTIME) \\
& (1.82) \\
& + .048135\ (NE-NEUPF-NEUPB-NFP)(QDUIF) \\
& (6.16) \\
& + .044299\ [QC1(NU)] - .165528\ [QC2(NU)] \\
& (.26) \qquad\qquad (1.62) \\
& + .089613\ [QC3(NU)] + 1.2729\ NU + .06490\ QDNINS \\
& (.42) \qquad\qquad (3.30) \qquad (1.22)
\end{aligned}
$$

see = .0443 RB2 = .975 car = .884 dw = 1.93

11.4 NCL Claimants on the Unemployment Insurance Fund

1Q60-4Q68 OLS

$$
\begin{aligned}
NCL = {} & - .61360 + .24623\ NINS - .01150\ (NINS)(QDUIF) \\
& (4.89) \quad (5.31) \qquad\qquad (3.01) \\
& - .001246\ (NINS)(QTIME) + .31833\ [QC1(NU)] \\
& (4.83) \qquad\qquad\qquad\qquad (13.63) \\
& - .05357\ [QC2(NU)] - .34011\ [QC3(NU)] + .68297\ NU \\
& (3.52) \qquad\qquad (13.55) \qquad\qquad (8.96)
\end{aligned}
$$

see = .0169 RB2 = .991 cov = 4.23% dw = 2.27

11.5 GTPINTF Interest on the federal public debt

1Q56-4Q68 OLS

$$GTPINTF = \underset{(191.01)}{.995461}\ [.0025(J2A[(EACR)(LGBF)] + J2A[(EACRCSB)(LGFCSB)] + (RS)[J2A(LGFTB)])]$$

$$- \underset{(5.09)}{.04650}\ (QC1)[.0025(J2A[(EACR)(LGBF)] + J2A[(EACRCSB)(LGFCSB)] + (RS)[J2A(LGFTB)])]$$

$$+ \underset{(5.15)}{.04685}\ (QC2)[.0025(J2A[(EACR)(LGBF)] + J2A[(EACRCSB)(LGFCSB)] + (RS)[J2A(LGFTB)])]$$

$$+ \underset{(3.41)}{.03079}\ (QC3)[.0025(J2A[(EACR)(LGBF)] + J2A[(EACRCSB)(LGFCSB)] + (RS)[J2A(LGFTB)])]$$

$$+ EIFDMIS$$

see = 5.77 RB2 = .981 cov = 3.92% dw = 1.88

Technical Relationship

11.6 NEMPS Employed contributors to the Unemployment Insurance Fund

$$NEMPS = NINS - NCL$$

Sector 12. Federal Current and Capital Expenditure on Goods and Services

12.1 NGPAF — Federal employment in public administration and defence

1Q57-4Q68 OLS

$$100[NGPAF/NPOPT] = \underset{(11.99)}{1.87145}$$
$$- \underset{(2.27)}{.01528}\ (QC1[J1L(100[NGPAF/NPOPT])])$$
$$+ \underset{(2.06)}{.01362}\ (QC2[J1L(100[NGPAF/NPOPT])])$$
$$+ \underset{(3.33)}{.02161}\ (QC3[J1L(100[NGPAF/NPOPT])])$$
$$- JW[.001\ YP/PCPI]$$
$$+ JW[(WQGPAF-(GWSF/NGPAF))/(1297.1399\ PGCNWG)]$$
$$+ JW(.01\ RNU) + JW(NPOPT)$$

t	JW[.001 YP/PCPI]		JW[(WQGPAF...)]	
0	.00372	(8.73)	-.23811	(7.80)
-1	.00682	(8.73)	-.13394	(7.80)
-2	.00930	(8.73)	-.05953	(7.80)
-3	.01116	(8.73)	-.01488	(7.80)
-4	.01240	(8.73)		
-5	.01302	(8.73)		
-6	.01302	(8.73)		
-7	.01240	(8.73)		
-8	.01116	(8.73)		
-9	.00930	(8.73)		
-10	.00682	(8.73)		
-11	.00372	(8.73)		
Sum W =	.11282	ZC2	-.44646	Z2

t	JW(.01 RNU)		JW(NPOPT)	
0	.23490	(2.62)	-.00109	(7.25)
-1	.19738	(2.62)	-.00206	(7.25)
-2	.16313	(2.62)	-.00293	(7.25)
-3	.13213	(2.62)	-.00369	(7.25)
-4	.10440	(2.62)	-.00435	(7.25)
-5	.07993	(2.62)	-.00489	(7.25)
-6	.05873	(2.62)	-.00532	(7.25)
-7	.04078	(2.62)	-.00565	(7.25)
-8	.02610	(2.62)	-.00587	(7.25)
-9	.01468	(2.62)	-.00598	(7.25)
-10	.00653	(2.62)	-.00598	(7.25)
-11	.00163	(2.62)	-.00587	(7.25)
-12			-.00565	(7.25)
-13			-.00532	(7.25)
-14			-.00489	(7.25)
-15			-.00435	(7.25)
-16			-.00369	(7.25)
-17			-.00293	(7.25)
-18			-.00206	(7.25)
-19			-.00109	(7.25)
Sum W =	1.06032	Z2	-.08366	ZC2

see = .0215 RB2 = .751 cov = 2.58% dw = 1.75

12.2 WQGPAF Quarterly wage rate in federal public administration and defence

1Q57-4Q68 OLS-HL

$$\ln(WQGPAF+ERPAF) = -.49931 + .001177\ [QC1(\ln WQAXF)] \quad (.97)\ (.90)$$

$$- .002384\ [QC2(\ln WQAXF)] \quad (1.87)$$

$$- .000871\ [QC3(\ln WQAXF)] \quad (.68)$$

$$+ JW(\ln WQAXF) + JW(\ln WQAXF/RNU)$$

where:

$$WQAXF = [YW-YWSLP-GWSF-GWPASPM-GWSSM-NGPAF(WQGPAF+ERPAF)]/(NE-NEUPB-NEUPF-NGPAF)$$

t		JW(ln_WQAXF)		JW(ln_WQAXF/RNU)	
0		.33912	(14.23)	.00638	(3.23)
-1		.25965	(14.23)	.01117	(3.23)
-2		.19076	(14.23)	.01436	(3.23)
-3		.13247	(14.23)	.01595	(3.23)
-4		.08478	(14.23)	.01595	(3.23)
-5		.04769	(14.23)	.01436	(3.23)
-6		.02120	(14.23)	.01117	(3.23)
-7		.00530	(14.23)	.00638	(3.23)
Sum W	=	1.08097	Z2	.09570	ZC2

see = .0419 RB2 = .985 car = .435 dw = 1.77

12.3 GCNWF Federal current nonwage expenditure

1Q58-4Q68 OLS

(GCNWF-CCAGF$)/PGCNWG = 64.344 + 77.307 QC1
(.46) (12.63)

- 30.716 QC2 - 37.959 QC3 + JW(YP/PCPI)
(4.41) (4.61)

+ JW[1297.1399 PGCNWG/(WQGPAF+(GWSF/NGPAF))]

+ JW[J4A(.01 RNU)] + JW(PCPICE) - 12.337 QTIME
(4.90)

t		JW(YP/PCPI)		JW[1297.1399...]	
0		.04299	(4.11)	- 73.0478	(1.88)
-1		.02985	(4.11)	- 41.0894	(1.88)
-2		.01911	(4.11)	- 18.2620	(1.88)
-3		.01075	(4.11)	- 4.5655	(1.88)
-4		.00478	(4.11)		
-5		.00119	(4.11)		
Sum W	=	.10866	Z2	-136.9647	Z2

t		JW[J4A(.01 RNU)]		JW(PCPICE)	
0		946.046	(3.76)	-16.3504	(2.69)
-1		532.151	(3.76)	- 9.1971	(2.69)
-2		236.512	(3.76)	- 4.0876	(2.69)
-3		59.128	(3.76)	- 1.0219	(2.69)
Sum W	=	1773.837	Z2	-30.6569	Z2

see = 17.74 RB2 = .896 cov = 7.44% dw = 2.54

12.4 INRCGF Federal investment in non-residential construction

1Q59-4Q68 OLS

$$[INRCGF-.01\ J1L(KNRCGF)]/NPOP = \underset{(3.14)}{102.24026}$$

$$- \underset{(3.36)}{.34601}\ [QC1(J1L[(INRCGF-.01\ J1L[KNRCGF])/NPOP])]$$

$$- \underset{(.29)}{.06023}\ [QC2(J1L[(INRCGF-.01\ J1L[KNRCGF])/NPOP])]$$

$$+ \underset{(1.73)}{.32024}\ [QC3(J1L[(INRCGF-.01\ J1L[KNRCGF])/NPOP])]$$

$$+ JW[YP/([PCPI][NPOP])] - JW(NPOP) + JW[J1D(NPOP)]$$

$$+ JW[J4A(RNU)/J12A(RNU)] + JW[(J1L[KNRCGF])/NPOP]$$

t	JW[YP/(...)]		JW(NPOP)	
0	.01860	(6.20)	-1.01791	(6.24)
-1	.01563	(6.20)	- .85533	(6.24)
-2	.01292	(6.20)	- .70688	(6.24)
-3	.01046	(6.20)	- .57257	(6.24)
-4	.00827	(6.20)	- .45240	(6.24)
-5	.00633	(6.20)	- .34637	(6.24)
-6	.00465	(6.20)	- .25448	(6.24)
-7	.00323	(6.20)	- .17672	(6.24)
-8	.00207	(6.20)	- .11310	(6.24)
-9	.00116	(6.20)	- .06362	(6.24)
-10	.00052	(6.20)	- .02828	(6.24)
-11	.00013	(6.20)	- .00707	(6.24)
Sum W =	.08396	Z2	-4.59472	Z2

t	JW[J1D(NPOP)]		JW[J4A(RNU)...]	
0	- 17.80847	(1.39)	3.53375	(4.10)
-1	- 22.88236	(2.28)	2.70553	(4.10)
-2	- 26.76390	(3.22)	1.98773	(4.10)
-3	- 29.45309	(3.89)	1.38037	(4.10)
-4	- 30.94993	(4.12)	.88344	(4.10)
-5	- 31.25441	(4.05)	.49693	(4.10)
-6	- 30.36655	(3.87)	.22086	(4.10)
-7	- 28.28634	(3.68)	.05521	(4.10)
-8	- 25.01377	(3.51)		
-9	- 20.54885	(3.36)		
-10	- 14.89159	(3.24)		
-11	- 8.04197	(3.14)		
Sum W =	-286.26123	Z1Z2	11.26382	Z2

t	JW[(J1L[KNRCGF])/NPOP]	
0	-.07600	(2.98)
-1	-.06156	(2.98)
-2	-.04864	(2.98)
-3	-.03724	(2.98)
-4	-.02736	(2.98)
-5	-.01900	(2.98)
-6	-.01216	(2.98)
-7	-.00684	(2.98)
-8	-.00304	(2.98)
-9	-.00076	(2.98)
Sum W =	-.29260	Z2

see = .533 RB2 = .794 dw = 1.48

Technical Relationship

12.5 KNRCGF Stock of federal non-residential construction

KNRCGF = .99 J1L(KNRCGF) + INRCGF

Sector 13. Provincial-Municipal Current and Capital Expenditure on Goods and Services

13.1 NGPAPM — Provincial-municipal employment in public administration

1Q58-4Q68 OLS

NGPAPM = .06902 - .03743 (QC1[J1L(NGPAPM)])
(3.29) (8.11)

+ .02244 (QC2[J1L(NGPAPM)])
(4.75)

+ .03722 (QC3[J1L(NGPAPM)]) + JW(.001 YP/PCPI)
(8.33)

+ JW[(WQGPAPM+(GWPASPM/NGPAPM))/921.23014 PGCNWG]

+ JW(RL) + JW[(RABEL-RABELD)/RABEL]

+ .05481 J2A[(YTOTPM+GBCPPPM)/(YTOTPM-GBALPM+GALPM)]
(2.39)

t	JW(.001 YP/PCPI)		JW[(WQGPAPM...]	
0	.00632	(29.07)	-.06050	(13.79)
-1	.00531	(29.07)	-.03403	(13.79)
-2	.00439	(29.07)	-.01512	(13.79)
-3	.00355	(29.07)	-.00378	(13.79)
-4	.00281	(29.07)		
-5	.00215	(29.07)		
-6	.00158	(29.07)		
-7	.00110	(29.07)		
-8	.00070	(29.07)		
-9	.00039	(29.07)		
-10	.00018	(29.07)		
-11	.00004	(29.07)		
Sum W =	.02852	Z2	-.11343	Z2

t	JW(RL)		JW[(RABEL...)]	
0	-.00142	(1.70)	.01283	(3.36)
-1	-.00099	(1.70)	.00891	(3.36)
-2	-.00063	(1.70)	.00570	(3.36)
-3	-.00035	(1.70)	.00321	(3.36)
-4	-.00016	(1.70)	.00143	(3.36)
-5	-.00004	(1.70)	.00036	(3.36)
Sum W =	-.00359	Z2	.03243	Z2

see = .0037 RB2 = .991 cov = 1.71% dw = 1.45

13.2 WQGPAPM Quarterly wage rate in provincial-municipal public administration

1Q57-4Q68 OLS-HL

$$\ln WQGPAPM = \underset{(3.01)}{1.35125} - \underset{(.52)}{.000563}\,[QC1(\ln WQAXPM)] - \underset{(2.40)}{.002559}\,[QC2(\ln WQAXPM)] - \underset{(.18)}{.000196}\,[QC3(\ln WQAXPM)] + JW(\ln WQAXPM) + JW[\ln WQAXPM/RNU]$$

where:

$$WQAXPM = [YW-YWSLP-GWSF-GWPASPM-GWSSM-(WQGPAPM)(NGPAPM)+(ERPAF)(NGPAF)]/(NE-NEUPB-NEUPF-NGPAPM)$$

t	JW(ln WQAXPM)		JW[ln WQAXPM/RNU]	
0	.17159	(11.70)	.00282	(3.02)
-1	.14418	(11.70)	.00518	(3.02)
-2	.11916	(11.70)	.00706	(3.02)
-3	.09652	(11.70)	.00847	(3.02)
-4	.07626	(11.70)	.00941	(3.02)
-5	.05839	(11.70)	.00988	(3.02)
-6	.04290	(11.70)	.00988	(3.02)
-7	.02979	(11.70)	.00941	(3.02)
-8	.01907	(11.70)	.00847	(3.02)
-9	.01072	(11.70)	.00706	(3.02)
-10	.00477	(11.70)	.00518	(3.02)
-11	.00119	(11.70)	.00282	(3.02)
Sum W =	.77454	Z2	.08567	ZC2

see = .0354 RB2 = .989 car = .464 dw = 1.77

13.3 NIS Employment in elementary and secondary schools under municipal control

1Q57-4Q68 OLS

NIS/NPOPS = .03322 + .0001336 QC1 - .0004536 QC2
(11.91) (2.08) (2.93)

- .0002795 QC3 + JW(.001 YP/[(PCPI)(NPOP)])
(2.73)

+ .07321 J4A[.001 GTGMP/NPOPS] + JW(.01 RL)
(5.76)

+ JW(.001 NPOPS) + JW[J1D(NPOPS)]

t	JW(.001 YP...)		JW(.01 RL)	
0	.00042	(2.55)	-.00213	(2.39)
-1	.00077	(2.55)	-.00373	(2.39)
-2	.00105	(2.55)	-.00479	(2.39)
-3	.00126	(2.55)	-.00532	(2.39)
-4	.00140	(2.55)	-.00532	(2.39)
-5	.00147	(2.55)	-.00479	(2.39)
-6	.00147	(2.55)	-.00373	(2.39)
-7	.00140	(2.55)	-.00213	(2.39)
-8	.00126	(2.55)		
-9	.00105	(2.55)		
-10	.00077	(2.55)		
-11	.00042	(2.55)		
Sum W =	.01277	ZC2	-.03193	ZC2

t	JW(.001 NPOPS)		JW[J1D(NPOPS)]	
0	-.10413	(1.43)	-.00955	(2.51)
-1	-.08750	(1.43)	-.00875	(2.51)
-2	-.07232	(1.43)	-.00796	(2.51)
-3	-.05858	(1.43)	-.00716	(2.51)
-4	-.04628	(1.43)	-.00636	(2.51)
-5	-.03543	(1.43)	-.00557	(2.51)
-6	-.02603	(1.43)	-.00477	(2.51)
-7	-.01808	(1.43)	-.00398	(2.51)
-8	-.01157	(1.43)	-.00318	(2.51)
-9	-.00651	(1.43)	-.00239	(2.51)
-10	-.00289	(1.43)	-.00159	(2.51)
-11	-.00072	(1.43)	-.00080	(2.51)
Sum W =	-.47005	Z2	-.06205	Z1

see = .00023 RB2 = .989 cov = .58% dw = 1.02

13.4 GCNWPM Provincial-municipal current nonwage expenditure

1Q59-4Q68 OLS

$$
\begin{aligned}
(GCNWPM-CCAGPM\$-EMEDPAY)/PGCNWG = {} & 184.870 \\
& (2.06) \\
& - 15.512\ QC1 - 16.325\ QC2 + 10.570\ QC3 \\
& \quad (2.44) \qquad (2.60) \qquad (1.69) \\
& + 34.234\ [QC1(QDSEAS)] + 5.0493\ [QC2(QDSEAS)] \\
& \quad (3.45) \qquad (.51) \\
& - 24.744\ [QC3(QDSEAS)] \\
& \quad (2.50) \\
& + [JW(YP/PCPI)][1+J4A[(YTOTPM+GBCPPPM)/ \\
& \quad (YTOTPM-GBALPM+GALPM)]-.86506] \\
& + JW[921.23014\ PGCNWG/(WQGPAPM+(GWPASPM/NGPAPM))] \\
& + 62.121\ QDCENT \\
& \quad (6.17)
\end{aligned}
$$

t	[JW(YP/PCPI)][...]		JW[921.23014...]	
0	.00238	(4.20)	-51.5288	(1.29)
-1	.00357	(4.20)	-28.9849	(1.29)
-2	.00357	(4.20)	-12.8822	(1.29)
-3	.00238	(4.20)	- 3.2206	(1.29)
Sum W =	.01189	ZC2	-96.6165	Z2

see = 17.71 RB2 = .827 cov = 8.63% dw = 1.69

13.5 INRCGPM Provincial-municipal investment in construction (excluding schools)

1Q60-4Q68 OLS

INRCGPM = - 920.013 - .24116 (QC1[J1L(INRCGPM)])
(2.19) (19.56)

- .07065 (QC2[J1L(INRCGPM)])
(3.72)

+ .27406 (QC3[J1L(INRCGPM)])
(20.21)

+ JW[J1D((YGNE/PGNE)-IRC-INRC-INRCSM-INRCGF-INRCGPM)]

+ JW[IRC+INRC+INRCSM+INRCGF]

+ JW([(YTOTPM+GBCPPPM)/(YTOTPM-GBALPM+GALPM)]/

J8A[(YTOTPM+GBCPPPM)/(YTOTPM-GBALPM+GALPM)])

- 128.211 [(RL-PCPICE)/J8A(RL-PCPICE)]
(3.40)

t		JW[J1D(...)]		JW[IRC...]	
0		.01168	(2.78)	.01793	(5.13)
-1		.02141	(2.78)	.01507	(5.13)
-2		.02920	(2.78)	.01245	(5.13)
-3		.03503	(2.78)	.01009	(5.13)
-4		.03893	(2.78)	.00797	(5.13)
-5		.04087	(2.78)	.00610	(5.13)
-6		.04087	(2.78)	.00448	(5.13)
-7		.03893	(2.78)	.00311	(5.13)
-8		.03503	(2.78)	.00199	(5.13)
-9		.02920	(2.78)	.00112	(5.13)
-10		.02141	(2.78)	.00050	(5.13)
-11		.01168	(2.78)	.00012	(5.13)
Sum W	=	.35423	ZC2	.08094	Z2

t	JW([(YTOTPM...])	
0	38.0384	(2.68)
-1	69.7370	(2.68)
-2	95.0960	(2.68)
-3	114.1152	(2.68)
-4	126.7946	(2.68)
-5	133.1344	(2.68)
-6	133.1344	(2.68)
-7	126.7946	(2.68)
-8	114.1152	(2.68)
-9	95.0960	(2.68)
-10	69.7370	(2.68)
-11	38.0384	(2.68)
Sum W =	1153.8311	ZC2

see = 11.69 RB2 = .967 cov = 4.33% dw = 1.90

13.6 INRCSM Municipal investment in school construction

1Q58-4Q68 OLS

INRCSM-.01 J1L(KNRCSM) = - 579.60
(5.53)

- .53128 (QC1[J1L(INRCSM-.01 J1L[KNRCSM])])
(8.34)

+ .19044 (QC2[J1L(INRCSM-.01 J1L[KNRCSM])])
(2.68)

+ .38352 (QC3[J1L(INRCSM-.01 J1L[KNRCSM])])
(8.12)

+ JW(YP/PCPI) + JW(NPOPS) + JW[GTGMP/J12A(GTGMP)]

+ JW[J1L(KNRCSM)]

t	JW(YP/PCPI)		JW(NPOPS)	
0	.00086	(1.88)	20.1368	(3.73)
-1	.00158	(1.88)	16.9205	(3.73)
-2	.00216	(1.88)	13.9839	(3.73)
-3	.00259	(1.88)	11.3269	(3.73)
-4	.00288	(1.88)	8.9497	(3.73)
-5	.00302	(1.88)	6.8521	(3.73)
-6	.00302	(1.88)	5.0342	(3.73)
-7	.00288	(1.88)	3.4960	(3.73)
-8	.00259	(1.88)	2.2374	(3.73)
-9	.00216	(1.88)	1.2586	(3.73)
-10	.00158	(1.88)	.5594	(3.73)
-11	.00086	(1.88)	.1398	(3.73)
Sum W =	.02617	ZC2	90.8952	Z2

t	JW[GTGMP/J12A(GTGMP)]		JW[J1L(KNRCSM)]	
0	.7042	(.07)	-.03062	(2.29)
-1	31.6490	(4.09)	-.02344	(2.29)
-2	50.1690	(5.34)	-.01722	(2.29)
-3	56.2641	(5.42)	-.01196	(2.29)
-4	49.9343	(5.35)	-.00766	(2.29)
-5	31.1796	(5.27)	-.00431	(2.29)
-6			-.00191	(2.29)
-7			-.00048	(2.29)
Sum W	219.9002	Z1Z2	-.09760	Z2

see = 10.35 RB2 = .889 dw = 1.65

Technical Relationships

13.7 YTOTPM Total provincial-municipal revenue (national accounts basis)

YTOTPM = TPYPM + TQPPPM + TOPPM + TCAPM + TIMVPM + TISPM
+ TIGASPM + TIOPM + TRHPMPR + TRMVPMPR + TROPMPR
+ YGIPM + CCAGPM$ + GTGPMF

13.8 KNRCSM Stock of elementary and secondary schools

KNRCSM = .99 J1L(KNRCSM) + INRCSM

Sector 14. Government Asset and Liability Changes

14.1 TCCF Federal corporation income tax collections

1Q54-4Q68 OLS

```
TCCF = .976354 (Q1)[(.25(QDTCCF1+QDTCCF2+QDTCCF4+QDTCCF5)
       (49.86)
                    +.2727 QDTCCF3+.40 QDTCCF6)(J9W[TCAF])
                    +(QDTCCF7)(.10 J9W[TCAF]+.1667 J5W[TCAF])
                    +(QDTCCF8)(.0833 J9W[TCAF]+.1667 J5W[TCAF])]
     + .992778 (Q2)[(QDTCCF1)(.667 J6W[TCAF]-.667 J3W[TCCF]
       (59.55)
                    -.0833 J10W[TCAF])+(QDTCCF2)(J6W[TCAF]
                    -J3W(TCCF)-.1667 J10W[TCAF]) + (QDTCCF3)
                    (1.0833 J6W[TCAF]-J4W[TCCF]) + (QDTCCF4)
                    (1.0833 J6W[TCAF]-J4W[TCCF]
                    -.0833 J10W[TCAF]) + (QDTCCF5)(J6W[TCAF]
                    -J4W[TCCF] -.0833 J10W[TCAF]) + (QDTCCF6)
                    (1.30 J6W[TCAF] -J4W[TCCF]) + (QDTCCF7)
                    (1.25 J6W[TCAF] -J4W[TCCF]+J1L[TCCF]
                    -.40 J10W[TCAF]) + (QDTCCF8)(1.25 J6W[TCAF]
                    -J4W[TCCF] +J1L[TCCF]-.50 J10W[TCAF])]
     + .975743 (Q3)[(QDTCCF1)(1.1667 J7W[TCAF]-J4W[TCCF]
       (53.72)
                    -.1667 J11W[TCAF]) + (.2727 QDTCCF2
                    +.25(QDTCCF3+QDTCCF4+QDTCCF7+QDTCCF8)
                    +.40 QDTCCF5+.30 QDTCCF6)(J7W[TCAF])]
```

$$+\ \underset{(47.72)}{.94091}\ (Q4)[(.25(QDTCCF1+QDTCCF3+QDTCCF4+QDTCCF7$$
$$+QDTCCF8)+.2727\ QDTCCF2+.20\ QDTCCF5$$
$$+.30\ QDTCCF6)(J8W[TCAF1])]$$
$$-\ \underset{(7.15)}{114.17}\ QDTCCF9$$

t	J3W	J4W	J5W	J6W	J7W	J8W	J9W	J10W	J11W
-1	1.0	1.0	1.0						
-2	1.0	1.0	1.0	1.0					
-3		1.0	1.0	1.0	1.0				
-4			1.0	1.0	1.0	1.0			
-5				1.0	1.0	1.0	1.0		
-6					1.0	1.0	1.0	1.0	
-7						1.0	1.0	1.0	1.0
-8							1.0	1.0	1.0
-9								1.0	1.0
-10									1.0

see = 25.95 RB2 = .897 cov = 7.34% dw = 1.33

14.2 PLGF1C — Ratio of market value to book value of Government of Canada direct market issues, maturity class 1

1Q55-4Q68 OLS-HL

$$PLGF1C = \underset{(443.1)}{1.02920}\ [(1+.01\ RS/2)^{**}(-2\ EATM1C)$$
$$+(EACR1C/RS)(1-[1+.01\ RS/2]$$
$$^{**}[-2\ EATM1C])]$$

see = .00629 RB2 = .988 car = .646 dw = 2.08

14.3 PLGF2C Ratio of market value to book value of Government of Canada direct market issues, maturity class 2

1Q55-4Q68 OLS-HL

$$PLGF2C = \underset{(495.1)}{1.02466}\ [(1+.01\ RMS/2)^{**}(-2\ EATM2C) + (EACR2C/RMS)(1-[1+.01\ RMS/2]^{**}[-2\ EATM2C])]$$

see = .00999 RB2 = .953 car = .344 dw = 1.97

14.4 PLGF3C Ratio of market value to book value of Government of Canada direct market issues, maturity class 3

1Q55-4Q68 OLS-HL

$$PLGF3C = \underset{(359.01)}{1.02451}\ [(1+.01\ RML/2)^{**}(-2\ EATM3C) + (EACR3C/RML)(1-[1+.01\ RML/2]^{**}[-2\ EATM3C])]$$

see = .01313 RB2 = .938 car = .356 dw = 1.91

14.5 PLGF4C Ratio of market value to book value of Government of Canada direct market issues, maturity class 4

1Q55-4Q68 OLS-HL

PLGF4C = 1.02709 [(1+.01 RL/2)**(-2 EATM4C)
(231.65)

+(EACR4C/RL)(1-[1+.01 RL/2]

**[-2 EATM4C])]

see = .01563 RB2 = .946 car = .486 dw = 1.98

Technical Relationships

14.6 GBALF Federal national accounts balance (+ if surplus)

GBALF = TPYF + TOPF + TCPPF + TUIRF + TCAF + TWF + TISF
+ TIEXF + TICUSF + TIOF + TRFPR + YGIF + CCAGF$
- (NGPAF)(WQGPAF) - GWIF - GWSF - GCNWF - GMPF
- GTPUIBF - GTPOF - GTPINTF - GTNRF - GSUBSF
- GASSTF - GTGPMF - (INRCGF)(PINRCG) - (IMEGF)(PIMEG)
- IIG$

14.7 GBALPM Provincial-municipal national accounts balance (+ if surplus)

GBALPM = YTOTPM - (NGPAPM)(WQGPAPM) - GWIPM - GWPASPM
- (NIS)(WQISM) - GWSSM - GCNWPM - GTPPM - GSUBSPM
- GASSTPM - GTGHPM - GTPINTPM - (INRCGPM)(PINRCG)
- (INRCSM)(PINRCG) - (IMEGPM)(PIMEG)

14.8 GBALH — Hospital national accounts balance (+ if surplus)

GBALH = TRHPR + YGIH + GTGHPM + CCAGH$ - GCGSH - (IH)(PIH)

14.9 LGFTB — End-of-quarter stock of Government of Canada treasury bills (excluding Bank of Canada holdings)

LGFTB = J1D(DDGFB) - GBALF - J1D(ANFCUR) - J1D(ABBCD)
- J1D(ABBCN) + (FXO)(PFX) - J1D(LGBF) - TCCF + TCAF
+ GAMIS - J1D(LGFCSB) + J1L(LGFTB)

14.10 PLGI — Market valuation ratio for Government of Canada, provincial and municipal bonds held by Canadian residents

PLGI = (EWLF)([(PLGF1C)(LGBFR1C)+(PLGF2C)(LGBFR2C)
+(PLGF3C)(LGBFR3C)+(PLGF4C)(LGBFR4C)]/
[LGBFR1C+LGBFR2C+LGBFR3C+LGBFR4C])
+ (1-EWLF)(.20 PLGF1C+.14 PLGF2C+.33 PLGF3C
+.33 PLGF4C)

14.11 GBRPM — Gross new issues of provincial and municipal bonds (excluding provincial issues to Canada Pension Plan Investment Fund)

GBRPM = GALPM + GBRETSPM - GBCPPPM - GBALPM

14.12 LGBPM — End-of-quarter stock of provincial and municipal bonds, direct and guaranteed (excluding provincial issues to Canada Pension Plan Investment Fund)

LGBPM = J1L(LGBPM) + GBRPM - GBRETSPM

UGNWNH = IIG + IMEGF + INRCSM + IMEGPM

+ INRCGF + IM + (GCNWF+GCNWPM)/(PGCNWG)

Sector 15. Demand for Liquid Assets by Nonfinancial Sector

(See table following for equations 15.1-15.8)

15.1	ANFCUR	Currency outside chartered banks held by nonfinancial public
15.2	DPB	Personal savings and personal chequing accounts in chartered banks
15.3	DSTL	Chequable and nonchequable demand and savings deposits in trust and loan companies
15.4	LGFCSB	End-of-quarter stock of Canada Savings Bonds
15.5	DDB	Demand deposits in chartered banks (excluding float, Government of Canada deposits and personal chequing accounts)
15.6	DSWPB	Swapped deposits in chartered banks
15.7	DNPTB	Nonpersonal term and notice deposits in chartered banks
15.8	DTTL	Receipts and guaranteed investment certificates deposited in trust and loan companies

Technical Relationships

15.9 ANFGN Government of Canada, provincial and municipal debt less chartered bank day, call and short loans held by nonfinancial public

ANFGN = LGBPM + LGBF + LGFTB + LGBFG - LGB12 - LGB13
- LGFTBNR - ABELCD - ABLGBPM

15.10 ANFLIQ Liquid assets held by nonfinancial public

ANFLIQ = ANFCUR + DPB + DSTL + LGFCSB + DDB + DSWPB
+ DNPTB + DTTL + ANFGN

15.11 DCDPB Canadian dollar deposits in chartered banks (excluding Government of Canada deposits)

DCDPB = DDB + DNPTB + DPB

Equations 15.1-15.8

DEMAND FOR LIQUID ASSETS BY NONFINANCIAL SECTOR
(Estimated as a proportion of ANFLIQ)

[2Q56-4Q68 OLS (Constrained)]

	ANFCUR	DFB	DSTL	IGFCSB	DDB	DSWPB	DNPTB	DTTL	ANKGN	Sum Across Equations
Constant	.05977 (3.53)	.20046 (5.94)	-.00388 (.57)	.08349 (7.01)	.32382 (6.43)		.09296 (2.83)	.01329 (3.28)	.23009 (10.18)	1
QC1	.00312 (3.49)	.00916 (5.13)	-.00083 (.87)	-.00288 (2.04)	.00121 (.42)		.00874 (3.66)	.00426 (3.98)	-.02078 (5.64)	0
QC2	.00386 (5.92)	.00442 (3.31)	-.00061 (.83)	-.00368 (3.35)	.00525 (2.48)		.00430 (3.15)	.00213 (2.63)	-.01567 (5.70)	0
-.333(QC1+QC2+QC3) (4th quarter seasonal)	.00697 (4.70)	.00696 (2.30)	.00166 (1.00)	.00434 (1.76)	.00795 (1.84)		.00918 (2.93)	.00548 (2.95)	-.03922 (6.16)	0
QDB						.00342 (6.71)	.00188 (1.49)		-.00530 (3.88)	0
QDBA					.00047 (.27)		.00581 (5.39)		-.00628 (3.24)	0
YGNE/ANFLIQ	.07139 (4.95)	.14248 (4.92)	-.01541 (1.02)	-.11639 (5.06)	.19849 (4.28)		.14426 (4.65)	.06190 (3.41)	-.48672 (8.00)	0
1000/ANFLIQ	.47687 (8.10)	-.27600 (1.93)	-.01229 (.17)	-.36978 (3.49)	.24861 (2.63)		-.40068 (4.01)	-.72345 (9.03)	1.05672 (6.21)	0
RPD		.01144 (6.53)	-.00209 (2.36)	-.00601 (5.09)					-.00334 (1.64)	0
RSTL		-.00609 (4.97)	.00609 (4.97)							0
EACRCSB		-.00215 (2.63)		.00215 (2.63)						0
RNPT							.00230 (2.17)		-.00230 (2.17)	0
QDB(RNPT-RSWP)						-.00200 (2.53)	.00200 (2.53)			
RTTL								.00373 (6.85)	-.00373 (6.85)	0
RS		-.00119 (3.01)			-.00312 (4.54)		-.00342 (2.73)	-.00302 (7.79)	.01075 (7.16)	0
QDB(RNPT-RS)							.00243 (1.33)		-.00243 (1.33)	0
J1L(ANFCUR)/ANFLIQ	-.42093 (5.44)	.42093 (5.44)								0
J1L(ANFLIQ)/ANFLIQ	-.05552 (3.13)	-.18917 (5.81)			.34836 (7.15)		-.11027 (3.11)			.70332
Lagged dep. var. ANFLIQ	.70332 (26.16)	.70332 (26.16)	.70332 (26.16)	.70332 (26.16)	.70332 (26.16)	.70332 (26.16)	.70332 (26.16)	.70332 (26.16)	.70332 (26.16)	.70332
R2 dw	.957 1.27	.959 1.37	.977 0.90	.979 1.23	.860 1.61	.922 1.79	.989 1.89	.997 1.53	.989 1.71	

Sector 16. Chartered Bank Assets

16.1 DSTATB Statutory deposits in chartered banks

1Q55-4Q68 OLS

$$DSTATB = \underset{(8.22)}{647.60} - \underset{(4.58)}{.01202}\ [QC1(DCDPB+DDGFB)] + \underset{(1.23)}{.00293}\ [QC2(DCDPB+DDGFB)] + \underset{(2.64)}{.00619}\ [QC3(DCDPB+DDGFB)] + \underset{(6.77)}{.55002}\ (DCDPB+DDGFB) + \underset{(5.25)}{.44702}\ J1L(DCDPB+DDGFB)$$

see = 149.32 RB2 = .999 cov = 1.02% dw = 1.32

16.2 ABBCN Bank of Canada notes held by chartered banks

1Q55-4Q68 OLS

$$ABBCN = \underset{(3.11)}{68.330} - \underset{(4.68)}{.02258}\ [QC1(ANFCUR)] - \underset{(.82)}{.00448}\ [QC2(ANFCUR)] - \underset{(2.01)}{.00791}\ [QC3(ANFCUR)] + \underset{(11.19)}{.12439}\ ANFCUR - \underset{(3.36)}{.41235}\ J1D(ANFCUR)$$

see = 31.40 RB2 = .815 cov = 10.04% dw = .82

16.3 ABSTATN Bank of Canada notes held by chartered banks on a statutory basis

1Q55-4Q68 OLS

$$ABSTATN = \underset{(2.15)}{53.913} - \underset{(2.16)}{.09104}\ [QC1(ABBCN)]$$
$$+ \underset{(3.85)}{.10190}\ [QC2(ABBCN)] + \underset{(3.08)}{.08217}\ [QC3(ABBCN)]$$
$$+ \underset{(4.71)}{.57744}\ ABBCN + \underset{(4.05)}{.50696}\ J1L(ABBCN)$$

see = 31.06 RB2 = .772 cov = 8.00% dw = .43

16.4 RBCR Required cash reserve ratio of chartered banks

$$RBCR = [(ERBCRDD)(J2A[DDB+DDGFB])+(16-ERBCRDD)(J2A[DPB+DNPTB])$$
$$+(2\ ERBCRDD-16)(.01\ ERBPCA)(J2A[DPB])]/$$
$$[J2A(DCDPB+DDGFB)]$$

16.5 ABLP Chartered bank personal loans

2Q56-4Q68 OLS

$$J1D(ABLP) = \underset{(8.08)}{-\ 162.75} - \underset{(3.66)}{.01614}\ (QC1[J1L(ABLP)])$$
$$+ \underset{(5.77)}{.02473}\ (QC2[J1L(ABLP)]) - \underset{(1.13)}{.00451}\ (QC3[J1L(ABLP)])$$
$$+ \underset{(6.76)}{371.99}\ J1L[(RABEL-RABELD)/RABEL]$$
$$+ \underset{(7.80)}{.16492}\ [(PCMV)(CMV)+(PCDO)(CDO)]$$

see = 34.92 RB2 = .816 dw = 1.32

16.6 ABLB Chartered bank business and miscellaneous general loans

2Q56-4Q68 OLS

$$
\begin{aligned}
J1D(ABLB) = {} & -210.35 - .01634\,(QC1\,|\,J1L(ABLB)\,|) \\
& \quad (3.48) \quad (3.50) \\
& + .02706\,(QC2\,|\,J1L(ABLB)\,|) + .00622\,(QC3\,|\,J1L(ABLB)\,|) \\
& \quad (6.30) \qquad\qquad\qquad\qquad (1.49) \\
& + JW\,|\,(RABEL-RABELD)/RABEL\,| \\
& + .15602\,|\,(PIME)(IME)+(PINRC)(INRC) \\
& \quad (3.44) \\
& \qquad +J1D(\,|\,PKIB\,|\,|\,KIB\,|\,)+YIVA \\
& \qquad -(YCR+CCAC\$+TCAF-TCCF)\,| \\
& + .17391\,(QDBA)\,|\,(PIME)(IME)+(PINRC)(INRC) \\
& \quad (3.11) \\
& \qquad +J1D(\,|\,PKIB\,|\,|\,KIB\,|\,)+YIVA \\
& \qquad -(YCR+CCAC\$+TCAF-TCCF)\,| \\
& - 390.86\,J1L(QCRISIS) \\
& \quad (6.31)
\end{aligned}
$$

t	JW|(RABEL...|	
0	157.26	(5.41)
-1	251.61	(5.41)
-2	283.07	(5.41)
-3	251.61	(5.41)
-4	157.26	(5.41)
Sum W =	1100.81	ZC2

see = 91.09 RB2 = .687 dw = 2.02

Technical Relationships

16.7 ABBCD Bank of Canada deposits held by chartered banks

ABBCD = (.01 RBCR)(DSTATB) + ABEC - ABSTATN

16.8 ABEL Chartered bank earning liquid assets

ABEL = ABT - ABBCD - ABBCN - ABLB - ABLP - ABLM - ABLGBPM
- ABLO - ABSC

16.9 ABELCD Chartered bank Canadian dollar earning liquid assets

ABELCD = ABEL - ABELNF

16.10 ABT Chartered bank total assets

ABT = DCDPB + DDGFB + LONB

16.11 RABEL Earning liquid asset ratio of chartered banks

RABEL = [ABEL-(.01 ZRBSR)(DSTATB)]/ABT

Sector 17. Interest Rates and Mortgage Approvals

17.1 RS — Average yield on Government of Canada bonds, 1-3 years

1Q58-4Q68 OLS

$$RS = \underset{(2.55)}{.59756} + \underset{(.74)}{.05856}\,QC1 - \underset{(2.05)}{.15319}\,QC2 - \underset{(.18)}{.01290}\,QC3$$

$$+ \underset{(4.76)}{.38703}\,J1L(RS) + \underset{(4.90)}{.49045}\,(RTB2)(QFLEX)$$

$$+ \underset{(3.66)}{.62951}\,QCRISIS + \underset{(3.38)}{.29696}\,(RTB2)(1-QFLEX)$$

$$+ JW[J1P(ABLP+ABLB)] + JW[J1P(PCPI)] + \underset{(2.62)}{.07086}\,J1P(LGBF)$$

t	JW[J1P(ABLP+ABLB)]		JW[J1P(PCPI)]	
0	.08121	(5.76)	.18360	(3.42)
-1	.05639	(5.76)	.16065	(3.42)
-2	.03609	(5.76)	.13770	(3.42)
-3	.02030	(5.76)	.11475	(3.42)
-4	.00902	(5.76)	.09180	(3.42)
-5	.00226	(5.76)	.06885	(3.42)
-6			.04590	(3.42)
-7			.02295	(3.42)
Sum W =	.20528	Z2	.82621	Z1

see = .250 RB2 = .930 cov = 5.40% dw = 1.49

17.2 RL Average yield on Government of Canada bonds, 10 years and over

1Q57-4Q68 OLS

RL = .60845 + .40041 RS + .14894 (RTB2-RS)
(2.71) (6.04) (1.79)

+ .13254 (RCB2-RTB2) + .19975 PCPICE
(1.46) (2.59)

+ .05804 J1D(LGBFR4C/LGBFR1C) + JW(RS)
(1.04)

t	JW(RS)	
-1	-.01596	(.89)
-2	.00548	(.45)
-3	.02044	(1.89)
-4	.03033	(2.83)
-5	.03641	(3.49)
-6	.03977	(4.14)
-7	.04131	(4.91)
-8	.04179	(5.88)
-9	.04177	(7.11)
-10	.04165	(8.61)
-11	.04165	(10.31)
-12	.04183	(11.64)
-13	.04208	(11.29)
-14	.04211	(9.35)
-15	.04146	(7.34)
-16	.03950	(5.88)
-17	.03543	(4.88)
-18	.02828	(4.20)
-19	.01691	(3.72)
Sum W =	.61224	Z1Z2Z3Z4

see = .096 RB2 = .982 cov = 1.84% dw = 1.25

17.3 RML Average yield on Government of Canada bonds, 5-10 years

1Q57-4Q68 OLS

RML = .19023 + .73265 RS + .29945 (RTB2-RS)
(.70) (9.05) (3.01)

+ .22945 (RCB2-RTB2) + .20112 PCPICE + JW(RS)
(2.10) (2.13)

t	JW(RS)	
-1	.00028	(.01)
-2	.00528	(.35)
-3	.00756	(.57)
-4	.00814	(.62)
-5	.00788	(.62)
-6	.00746	(.64)
-7	.00744	(.73)
-8	.00820	(.95)
-9	.00995	(1.39)
-10	.01276	(2.16)
-11	.01653	(3.36)
-12	.02102	(4.79)
-13	.02582	(5.68)
-14	.03034	(5.53)
-15	.03387	(4.94)
-16	.03552	(4.35)
-17	.03423	(3.89)
-18	.02882	(3.54)
-19	.01792	(3.26)
Sum W =	.31902	Z1Z2Z3Z4

see = .117 RB2 = .980 cov = 2.31% dw = 1.17

17.4 RMS Average yield on Government of Canada bonds, 3-5 years

1Q57-4Q68 OLS

RMS = - .12432 + 1.0221 RS + .44871 (RTB2-RS)
(.53) (23.50) (6.35)

+ .44932 (RCB2-RTB2) + JW(RS)
(5.46)

t	JW(RS)	
-1	.01099	(.77)
-2	.00132	(.16)
-3	-.00542	(1.45)
-4	-.00957	(3.13)
-5	-.01148	(2.44)
-6	-.01147	(1.91)
-7	-.00989	(1.50)
-8	-.00708	(1.07)
-9	-.00337	(.55)
-10	.00090	(.17)
-11	.00539	(1.11)
-12	.00977	(2.11)
-13	.01369	(2.80)
-14	.01682	(3.09)
-15	.01881	(3.15)
-16	.01934	(3.11)
-17	.01806	(3.05)
-18	.01464	(2.98)
-19	.00873	(2.92)
Sum W =	.08018	Z2Z3

see = .175 RB2 = .956 cov = 3.59% dw = 1.13

17.5 RNPT Rate on nonpersonal term and notice deposits in chartered banks

1Q55-4Q68 OLS

$$RNPT = \underset{(3.91)}{-.77634} + \underset{(19.18)}{.97851}\,(1-QDB)(RS) + \underset{(5.96)}{.76684}\,(QDB)(RS) + \underset{(2.75)}{.35750}\,(QDB)[J1L(RS)]$$

see = .323 RB2 = .943 cov = 8.43% dw = .99

17.6 RSWP Rate on swapped deposits in chartered banks

1Q62-4Q68 OLS

$$RSWP = \underset{(2.82)}{.45843} + \underset{(29.07)}{.84669}\left[REUR-\left(\frac{PFX-PFXF}{PFX}\right)(405.5)\right]$$

see = .195 RB2 = .969 cov = 3.86% dw = 2.15

17.7 RTTL Rate on one-year deposits in trust companies

1Q54-4Q68 OLS

$$RTTL = \underset{(2.10)}{.23010} + \underset{(9.71)}{.47517}\ RS - \underset{(2.15)}{.15365}\ J1L(RS) + \underset{(9.82)}{.66819}\ J1L(RTTL)$$

see = .181 RB2 = .972 cov = 3.87% dw = 2.14

17.8 RMC Conventional mortgage rate

1Q57-4Q68 OLS

$$RMC = \underset{(3.12)}{1.2376} - \underset{(1.91)}{.05242}\ QC1 + \underset{(1.50)}{.04768}\ QC2 + \underset{(.10)}{.00261}\ QC3 - \underset{(4.34)}{3.3352}\ [(HAPTL+HAPLI+HAPB+HAPCMHCS+HAPCMHCM)/([PIRC][NHH])] - \underset{(.17)}{.01672}\ [(J1L[SHM+SHS])/NHH] + \underset{(1.78)}{.10301}\ (QNHA)(RL+2.25-RNHA) - \underset{(4.75)}{.47334}\ QNHA + JW[YDP/([NHH][PGNE])] + \underset{(9.89)}{.72467}\ J1L(RMC)$$

t	JW[YDP/([NHH][PGNE])]	
0	.35723	(3.83)
-1	.26792	(3.83)
-2	.17861	(3.83)
-3	.08931	(3.83)
Sum W =	.89307	Z1

see = .097 RB2 = .978 cov = 1.33% dw = 1.56

17.9 HAPTL Trust and loan company mortgage approvals

1Q57-4Q68 OLS

$$HAPTL = \underset{(.84)}{10.694} - \underset{(.17)}{.00042}\,[QC1(ATL)] + \underset{(4.61)}{.01049}\,[QC2(ATL)]$$
$$- \underset{(.51)}{.00116}\,[QC3(ATL)] + \underset{(1.31)}{.00782}\,[J1L(.5[RMC+RNHA]-RL)][ATL]$$
$$+ \underset{(.27)}{.00463}\,ATL + \underset{(3.71)}{.20194}\,J4D(ATL) + JW(HAPTL)$$

t	JW(HAPTL)	
-1	.13700	(1.19)
-2	.05664	(.78)
-3	-.00345	(.07)
-4	-.04329	(.91)
-5	-.06285	(1.30)
-6	-.06217	(1.45)
-7	-.04121	(1.52)
Sum W =	-.01934	Z1Z2

see = 39.24 RB2 = .858 cov = 20.92% dw = 1.88

17.10 HAPLI Life insurance company mortgage approvals

1Q56-4Q68 OLS

$$HAPLI = \underset{(.43)}{9.6617} - \underset{(3.05)}{.00229}\,[QC1(ALI-APLLI)]$$

$$+ \underset{(6.42)}{.00465}\,[QC2(ALI-APLLI)] + \underset{(.57)}{.00042}\,[QC3(ALI-APLLI)]$$

$$- \underset{(1.87)}{.00403}\,(QNHA)(RL+2.25-RNHA)(ALI-APLLI)$$

$$+ \underset{(4.95)}{.02358}\,(ALI-APLLI) - \underset{(5.52)}{3.3714}\,J4D(APLLI)$$

$$+ \underset{(.20)}{.00025}\,(1-QNHA)(J1L[.5(RMC+RNHA)-RL])(ALI-APLLI)$$

$$+ JW(HAPLI)$$

t	JW(HAPLI)	
-1	.15748	(2.07)
-2	.10079	(2.07)
-3	.05669	(2.07)
-4	.02520	(2.07)
-5	.00630	(2.07)
Sum W =	.34646	Z2

see = 27.22 RB2 = .812 cov = 14.59% dw = 2.20

Technical Relationship

17.11 ATL Assets of trust and loan companies

ATL = DSTL + DTTL + LONTL

Sector 18. The Market Value of Real Capital, Wealth, the Supply Price of Capital and the Expected Rate of Inflation

18.1 VKB — The difference between the long-term interest rate and the normalized yield on the market value of business capital stock used to solve for VKB - the market value of the end-of-quarter business capital stock

1Q55-4Q68 OLS

```
RL-100[J4S(YC-TCA+ECINT+YCGBE+YNFNC-[WQMMOB][NEUPB])/J2A(VKB)] =

    2.0282 + PCPICE - .91220 [([.01 PCPICE][J2A(VKB)]
    (3.35)            (5.11)

                                +J4S[YC-TCA+ECINT-YCGBE

                                +YNFNC-(WQMMOB)(NEUPB)])/

                                J4S(GTPINTF+GTPINTPM-EIFDMIS)]
```

see = .511 RB2 = .786 dw = .60

Technical Relationships

18.2 PCPICE — Expected annual rate of change in the Consumer Price Index (Weights derived in the estimation of 18.1)

PCPICE = JW[J4P(PCPI)]

t	JW[J4P(PCPI)]	
0	.15771	(.93)
-1	.06334	(.92)
-2	.01127	(.25)
-3	-.00678	(.10)
-4	.00096	(.01)
-5	.02621	(.37)
-6	.06073	(1.10)
-7	.09626	(2.76)
-8	.12453	(2.75)
-9	.13730	(2.47)
-10	.12630	(2.18)
-11	.08329	(1.99)
Sum W =	.88113	Z1Z2Z3

18.3 VLGB11 Market value of resident-held Government of Canada, provincial and municipal bonds

VLGB11 = (PLGI)(LGBF+LGBPM-LGB12-LGB13)

18.4 V Market value of private sector wealth

V = (VKB)(1-.01 RVB12-.01 RVB13) + A12 + A13 + (KMV)(PCMV)
+ (KDO)(PCDO) + (14.797 SHS+8.878 SHM)(PIRC)
+ VLGB11 + ABBCD + ABBCN + ANFCUR + LGFCSB
+ LGFTB - LGFTBNR - DDGFB

18.5 RHOR Approximation to the real supply price of capital

RHOR = .5(100[J4S(YC-TCA+ECINT+YCGBE+YNFNC-[WQMMOB][NEUPB])/
J2A(VKB)] + RL - 2.0282 - PCPICE
+ .91220 [([.01 PCPICE][J2A(VKB)]+J4S[YC-TCA+ECINT
+YCGBE+YNFNC-(WQMMOB)(NEUPB)])/J4S(GTPINTF
+GTPINTPM-EIFDMIS)])

18.6 RHO Approximation to the nominal supply price of capital

RHO = RHOR + PCPICE

18.7 KB$ The replacement value of the business capital stock

KB$ = (PKIB)(KIB) + (PIME)(KME) + (PINRC)(KNRC)

Sector 19. Long-Term Capital Flows

19.1 FIDI12 Direct investment in Canada from the United States

1Q57-4Q68 OLS

$$\frac{FIDI12}{[J4A][(IME)(PIME)+(INRC)(PINRC)-YCR-CCAC\$][LDIRV12/KB\$]} =$$

$$\begin{array}{llll} .56838 & -.00515\ QC1 & +.01428\ QC2 & -.06615\ QC3 \\ (4.97) & (.13) & (.35) & (1.65) \end{array}$$

$$\begin{array}{ll} -.03512\ EGUIDE & -.26066\ ZDEPREC + JW[RHO-RHO2] \\ (2.40) & (3.59) \end{array}$$

$$\begin{array}{ll} -.95082 & [(EPS\$2+EPD\$2-YPCC\$2+YDV\$2)/(SA\$2-YCR\$2)] \\ (4.17) & \end{array}$$

t	JW[RHO-RHO2]	
-1	.01871	(.70)
-2	.03203	(2.80)
-3	.03654	(4.62)
-4	.03441	(3.49)
-5	.02780	(2.84)
-6	.01889	(2.49)
-7	.00984	(2.29)
-8	.00282	(2.15)
Sum W =	.18106	Z2Z3

see = .161 RB2 = .510 cov = 27.46% dw = 1.72

19.2 FIDI13 Direct investment in Canada from other countries

2Q58-4Q68 OLS

$$\frac{FIDI13}{[J12A[(IME)(PIME)+(INRC)(PINRC)-YCR-CCAC\$]][LDIPRV13/KB\$]} =$$

$$.21574 + JW[RHO-RLUK] + 2.18859\ QOIL$$
$$(1.46) \qquad\qquad (7.04)$$

t	JW[RHO-RLUK]	
0	-.00997	(.63)
-1	-.00230	(.19)
-2	.00430	(.47)
-3	.00983	(1.41)
-4	.01428	(2.40)
-5	.01767	(2.99)
-6	.01999	(3.15)
-7	.02124	(3.11)
-8	.02141	(3.02)
-9	.02052	(2.93)
-10	.01856	(2.85)
-11	.01552	(2.78)
-12	.01142	(2.72)
-13	.00624	(2.67)
Sum W =	.16871	Z1Z2

see = .300 RB2 = .577 cov = 46.71% dw = 1.42

19.3 FODI12 Direct investment in the United States from Canada

1Q57-4Q68 OLS

$$\frac{FODI12}{J4A([PFX][EPD\$2-EPS\$2-YPCC\$2+YDV\$2])} = .67922 + .55004\ QC1 - .65291\ QC2 - .46445\ QC3 - 7.2315\ QSALE$$
$$(3.01) \quad (1.42) \quad (1.68) \quad (1.16) \quad (4.48)$$

see = 1.55 RB2 = .362 dw = 2.61

19.4 FOL13 Long-term direct and portfolio investment in bonds and shares from Canada in other countries

1Q60-4Q68 OLS

FOL13 = .002794 J1D(V) + 45.178 EF68E
(2.45) (3.66)

+ JW(J1D[(.01 XBCF2)e**(4.167641+.01341 QTIME)])

t	JW(J1D[...])	
0	.38368	(.63)
-1	.49328	(1.03)
-2	.58748	(1.61)
-3	.66628	(2.48)
-4	.72968	(3.68)
-5	.77767	(4.77)
-6	.81026	(4.88)
-7	.82745	(4.32)
-8	.82924	(3.74)
-9	.81563	(3.29)
-10	.78661	(2.96)
-11	.74219	(2.72)
-12	.68237	(2.53)
-13	.60715	(2.38)
-14	.51652	(2.26)
-15	.41049	(2.17)
-16	.28907	(2.09)
-17	.15223	(2.02)
Sum W =	11.10728	Z1Z2

see = 14.29 RB2 = .306 cov = 55.97% dw = 1.97

19.5 FINIPM12 Sales of gross new issues of provincial and municipal bonds, direct and guaranteed, in the United States

3Q55-4Q68 OLS

$$\frac{FINIPM12}{GBRPM} = \underset{(7.51)}{.29660} + \underset{(2.94)}{.06446}\,QC1 + \underset{(.89)}{.01952}\,QC2 - \underset{(.57)}{.01220}\,QC3 - \underset{(5.12)}{.17906}\,QLOBO + JW[(RABEL-RABELD)/RABEL] + \underset{(2.49)}{.21495}\,EIETB$$

t	JW[(RABEL...]	
0	-.20322	(1.89)
-1	-.08518	(1.73)
-2	-.00583	(.11)
-3	.03481	(.57)
-4	.03676	(.81)
Sum W =	-.22265	Z1Z2

see = .092 RB2 = .486 cov = 42.01% dw = 1.70

19.6 FINIB12 Sales of gross new issues of Canadian corporate bonds in the United States

3Q55-4Q68 OLS

$$\frac{\text{FINIB12}}{\text{J12A[(IME)(PIME)+(INRC)(PINRC)-YCR-CCAC\$]}} = .98082 \quad (4.79)$$

$$- .00010\ QC1 + .10716\ QC2 - .06096\ QC3 - .36335\ QFLEX$$
$$(.003) \qquad (2.84) \qquad (1.65) \qquad (4.88)$$

$$- .000364\ J1L(LCB12/VCN\$2) + JW[(RABEL-RABELD)/RABEL]$$
$$(2.78)$$

$$+ .47101\ EIETB$$
$$(3.17)$$

t	JW[(RABEL...]	
0	-.18550	(.95)
-1	-.23417	(2.61)
-2	-.23996	(2.31)
-3	-.20286	(1.69)
-4	-.12288	(1.40)
Sum W =	-.98538	Z1Z2

see = .158 RB2 = .416 cov = 73.68% dw = 1.82

19.7 FITOGB12 Trade in outstanding Government of Canada, provincial and municipal bonds between Canada and the United States (net sales to the United States)

1Q55-4Q68 OLS

$$FITOGB12 = 9.5312 + 56.837\ (RL-RCB2)$$
$$(.79) \qquad (7.27)$$

$$- .02655\ J1L(LGB12/VCN\$2)$$
$$(3.22)$$

see = 14.01 RB2 = .481 dw = 1.18

19.8 FITOBB12 Trade in outstanding Canadian corporate bonds between Canada and the United States (net sales to the United States)

1Q55-4Q68 OLS

FITOBB12 = 206.20 (PFX-EPFXE) + 6.1187 (RL-RCB2)
(3.92) (3.01)

- .004034 J1L(LCB12/VCN$2) - 5.4963 EF68E
(3.55) (1.99)

+ 3.1244 QFLEX
(1.98)

see = 3.89 RB2 = .330 dw = 2.03

19.9 FIPVB12 Purchases of Canadian corporate shares on a portfolio basis by U.S. residents. Gross new issues, less retirements, plus net trade in outstanding shares

1Q57-4Q68 OLS

FIPVB12 = 16.956 QMIDEAST - 45.965 QUSTAX - 72.855 QBROKE
(1.19) (6.73) (7.20)

+ JW[J1D(RHOR-RHOR2)] + JW[J1D(VCN$2)]

t	JW[J1D(RHOR-RHOR2)]		JW[J1D(VCN$2)]	
0	2.7467	(.25)	223.4749	(5.47)
-1	7.8402	(1.08)	155.1909	(5.47)
-2	9.0803	(1.07)	99.3222	(5.47)
-3	6.4669	(.97)	55.8687	(5.47)
-4			24.8305	(5.47)
-5			6.2076	(5.47)
Sum W =	26.1341	Z1Z2	564.8948	Z2

see = 17.85 RB2 = .675 dw = 1.41

19.10 FIGB13 Sales of Government of Canada, provincial and municipal bonds in other countries. Gross new issues, less retirements, plus net trade in outstanding bonds

1Q54-4Q68 OLS

$$FIGB13 = \underset{(3.13)}{18.795} - \underset{(1.07)}{.01625}\ J1L(LGB13) + \underset{(3.60)}{11.684}\ (RL-RLUK) + \underset{(14.74)}{1.0051}\ ZEUROF + \underset{(11.45)}{142.32}\ QEUROPM$$

see = 11.26 RB2 = .900 dw = 2.11

19.11 FIBL13 Sales of Canadian corporate bonds and shares in other countries. Gross new issues, less retirements, plus net trade in outstanding bonds and shares

1Q55-4Q68 OLS

$$FIBL13 = - \underset{(.59)}{12.950} - \underset{(9.57)}{.02420}\ J1L(LDIPRV13) + \underset{(5.20)}{18.519}\ RHO + \underset{(3.38)}{.04724}\ J4A[(IME)(PIME)+(INRC)(PINRC)-YCR-CCAC\$]$$

see = 18.28 RB2 = .626 dw = .94

19.12 FOPL12 Purchases of U.S. bonds and shares by Canadians. Gross new issues, less retirements, plus net trade in outstanding bonds and shares

2Q57-4Q68 OLS

$$\frac{FOPL12}{PFX} = \underset{(4.35)}{-\ 6303.6}\ J1L(A12/V) \underset{(1.51)}{-\ 8.1488}\ (RHO-RHO2)$$

$$+\ JW(ODG2)$$

t	JW(ODG2)	
0	.70846	(8.60)
-1	.65786	(8.60)
-2	.60725	(8.60)
-3	.55665	(8.60)
-4	.50604	(8.60)
-5	.45544	(8.60)
-6	.40483	(8.60)
-7	.35423	(8.60)
-8	.30363	(8.60)
-9	.25302	(8.60)
-10	.20242	(8.60)
-11	.15181	(8.60)
-12	.10121	(8.60)
-13	.05060	(8.60)
Sum W =	5.31345	Z1

see = 23.76 RB2 = .682 cov = 88.98% dw = .81

19.13 FIYCRE12 Canadian corporate retained earnings accruing to U.S. shareholders

1Q55-4Q68 OLS

$$FIYCRE12 = \underset{(3.43)}{30.399} \underset{(1.80)}{-\ 7.7577}\ QC1 \underset{(2.83)}{-\ 11.520}\ QC2 \underset{(1.76)}{-\ 7.1180}\ QC3$$

$$+\ \underset{(15.11)}{.49138}\ (LDIRV12/KB\$)(YC-TCA)$$

$$-\ (MDIV\$12)(LDIRV12/(LDIRV12+LPCV12))$$

see = 17.38 RB2 = .858 cov = 10.89% dw = 1.31

Sector 20. International Portfolio Positions

Technical Relationships

20.1 LGB12 — Government of Canada, provincial and municipal bonds, direct and guaranteed, held by U.S. residents

LGB12 = J1L(LGB12) + FINIPM12 + FINIGF12 + FITOGB12
+ FIRETG12

20.2 LCB12 — Canadian corporate bonds and debentures held by U.S. residents

LCB12 = J1L(LCB12) + FINIB12 + FITOBB12 + FIRETB12

20.3 LPCV12 — Value of common and preferred Canadian corporate shares held by U.S. residents

LPCV12 = (PKB/J1L(PKB)+YCR/VKB)(J1L(LPCV12)) + FIPVB12

where:

PKB = KB$/(KIB+KME+KNRC)

20.4 LDIRV12 — Replacement value of the stock of U.S. direct investment in Canada, including Canadian corporate retained earnings accruing to U.S. direct investors

LDIRV12 = (PKB/J1L(PKB))(J1L(LDIRV12)) + FIDI12 + FIYCRE12

where:

PKB = KB$/(KIB+KME+KNRC)

20.5 LDIPRV13 Replacement value of the stock of direct and portfolio investment in Canada by other countries, including Canadian corporate retained earnings accruing to shareholders of other countries

LDIPRV13 = (PKB/J1L(PKB))(J1L(LDIPRV13)) + FIDI13
+ FIBL13 + FIYCRE13

20.6 LGB13 Government of Canada, provincial and municipal bonds, direct and guaranteed, held by residents of other countries

LGB13 = J1L(LGB13) + FIGB13

20.7 A12 Book value of U.S. indebtedness to Canada, including retained earnings accruing to Canadian shareholders

A12 = J1L(A12) + FODI12 + FOPL12 + J1D(AYCRE12)

20.8 A13 Book value of the indebtedness of other countries to Canada, including retained earnings accruing to Canadian shareholders

A13 = J1L(A13) + FOL13 + J1D(AYCRE13)

20.9 RVB12 Return to U.S. residents from Canadian business assets (percentage of total return)

RVB12 = 100(LDIRV12+LPCV12+LCB12)/KB$

20.10 RVB13 Return to residents of other countries from Canadian business assets (percentage of total return)

RVB13 = 100(LDIPRV13/KB$)

Sector 21. The Foreign Exchange Market and Short-Term Capital Flows

21.1 FXO Official excess demand for spot exchange

1Q63-4Q68 OLS

$$FXO = \underset{(6.19)}{.84817}\,[ZRESD - J1L(URES)]$$
$$- \underset{(4.28)}{.49354}\,[(PFX-1.081)/(.000081-[PFX-1.081]^{**}2)]$$
$$+ \underset{(5.51)}{41110.9}\,[(1.08-PFX)-([(1.08-PFX)^{**}2]^{**}.5)]$$
$$+ \underset{(2.44)}{79'.144}\,ZTR$$

see = 84.93 RB2 = .849 dw = 1.61

21.2 FXP Private excess demand for spot exchange

1Q63-4Q68 OLS

$$FXP = \underset{(1.70)}{-\,138.49} - \underset{(1.81)}{.21913}\,J2A(UBAL/PFX) + \underset{(2.37)}{.13145}\,J2A[J1L(ULS)]$$
$$- \underset{(3.56)}{235.06}\,\left[RS-\left(\frac{LEURO}{MTM\$2+LEURO}\right)REUR\right.$$
$$-\left(\frac{MTM\$2}{MTM\$2+LEURO}\right)RTB2-\left(\frac{REUR}{RCD2}-1\right)(REUR-RTB2)$$
$$\left.-405.5\,(PFXF-PFX)/PFX\right]$$
$$+ \underset{(1.51)}{102.65}\,J1D\left[RS-\left(\frac{LEURO}{MTM\$2+LEURO}\right)REUR\right.$$
$$-\left(\frac{MTM\$2}{MTM\$2+LEURO}\right)RTB2-\left(\frac{REUR}{RCD2}-1\right)(REUR-RTB2)$$
$$\left.-405.5\,(PFXF-PFX)/PFX\right]$$
$$+ \underset{(2.01)}{186.26}\,EIET + \underset{(10.42)}{621.68}\,EF68E$$

see = 82.81 RB2 = .856 dw = 1.54

21.3 PFXF 90-day forward exchange rate (Canadian dollars per U.S. dollar)

1Q63-4Q68 OLS

$$PFXF = \underset{(1301.4)}{1.07828} - \underset{(3.06)}{.000011}\ J4A(UBAL/PFX)$$

$$+ \underset{(1.17)}{.001421}\ \left[RS-\left(\frac{LEURO}{MTM\$2+LEURO}\right)REUR - \left(\frac{MTM\$2}{MTM\$2+LEURO}\right)RTB2-\left(\frac{REUR}{RCD2}-1\right)(REUR-RTB2)\right]$$

$$+ \underset{(2.88)}{.0000166}\ ZFXOF + \underset{(5.04)}{.01923}\ EP68E$$

see = .0019 RB2 = .645 cov = .17% dw = 1.57

Technical Relationships

21.4 PFX Equilibrium condition in the foreign exchange market, used to determine the spot exchange rate, PFX (Canadian dollars per U.S. dollar)

$$FXO + FXP = 0$$

21.5 FIS Balance of payments identity used to determine short-term capital flows as a residual

$$FIS = (FXO)(PFX) + ERES2ADJ - UBAL$$

21.6 UBAL12 Net balance of payments with the United States on current and long-term capital account (million Canadian dollars)

$$UBAL12 = X\$12 - M\$12 + FIDI12 + FINIPM12 + FINIB12 + FINIGF12 + FIRETG12 + FIRETB12 + FILO12 - FODI12 + FITOGB12 - FOPL12 + FIPVB12 + FITOBB12$$

21.7 UBAL — Net balance of payments with all countries on current and long-term capital account (million Canadian dollars)

UBAL = UBAL12 + X$13 - M$13 + FIDI13 + FIGB13 + FIBL13
+ FILO13 - FOL13

21.8 URES — Canadian foreign exchange reserves, including gold, U.S. dollars, other convertible currencies and reserve position in the IMF (million U.S. dollars)

URES = J1L(URES) + FXO + ERES1ADJ + ERES2ADJ

21.9 ULS — Net international short-term liabilities outstanding between Canada and the rest of the world (+ if net liability is of Canada to rest of the world) (million U.S. dollars)

ULS = J1L(ULS) + FIS/PFX

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