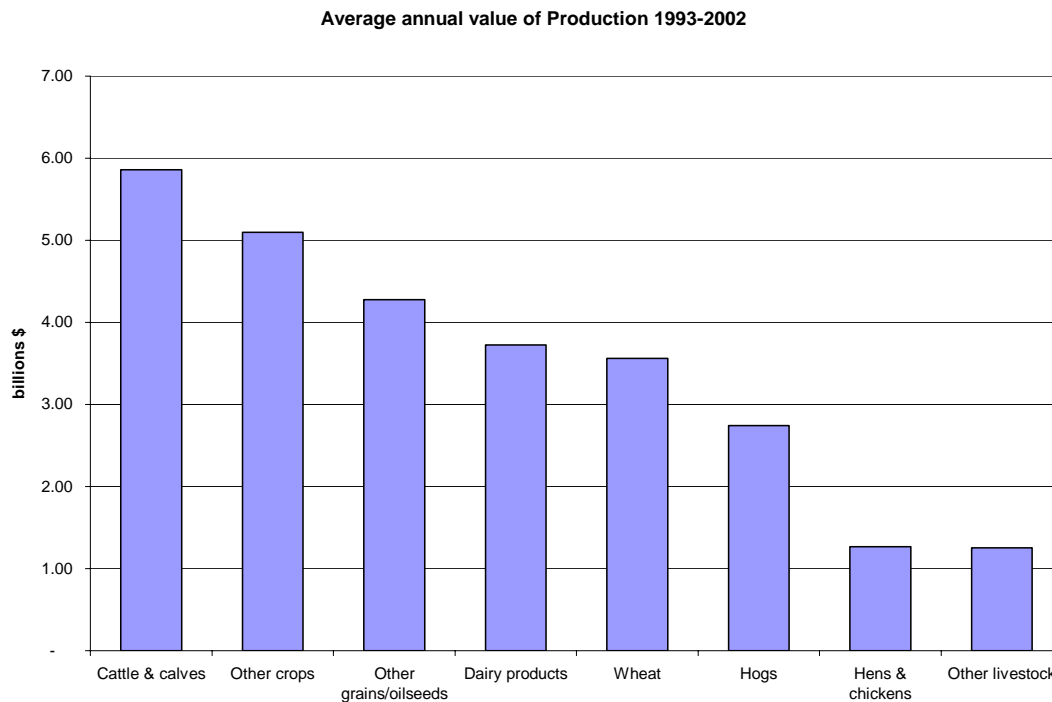


GRAIN/AGRICULTURE

I. Canadian Agriculture Sector

- A. Total value of production: farmgate, 2003, \$36 billion.
- B. Relative importance by product



C. Exports

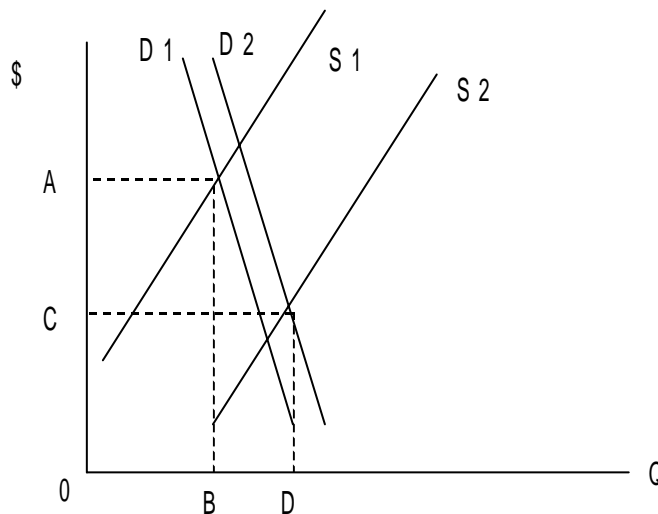
Exports: 2002

	Value	Share	
Meat	4.4	16.6%	crude
Grains	3.7	13.9%	crude
Live animals	2.5	9.5%	crude
Oilseeds	2.0	7.4%	crude
Prepared grains	1.8	6.9%	processed
Vegetables	1.7	6.4%	crude
Beverages and spirits	1.4	5.4%	processed
Processed vegetables, fruit & nuts	1.1	4.2%	processed
Misc. edible preparations	1.0	3.9%	processed
Total	26.4		

II. The "farm problem" (in most industrialized countries)

A. Longrun

1. Inelastic demand for food (in western society we are rich, doesn't matter if p of food drops we don't consume that much more) n.b. this demand for all food, elasticity can be high for individual products.
2. Technological advance: rapid increases in agricultural supply (green revolution, electrification, mechanization, fertilizer development, etc.)
3. Immobility of resources out of the sector.
4. Farmers face market power at input level (transportation, chemicals, fuel, machinery, etc.) and at output level (concentration in processing)



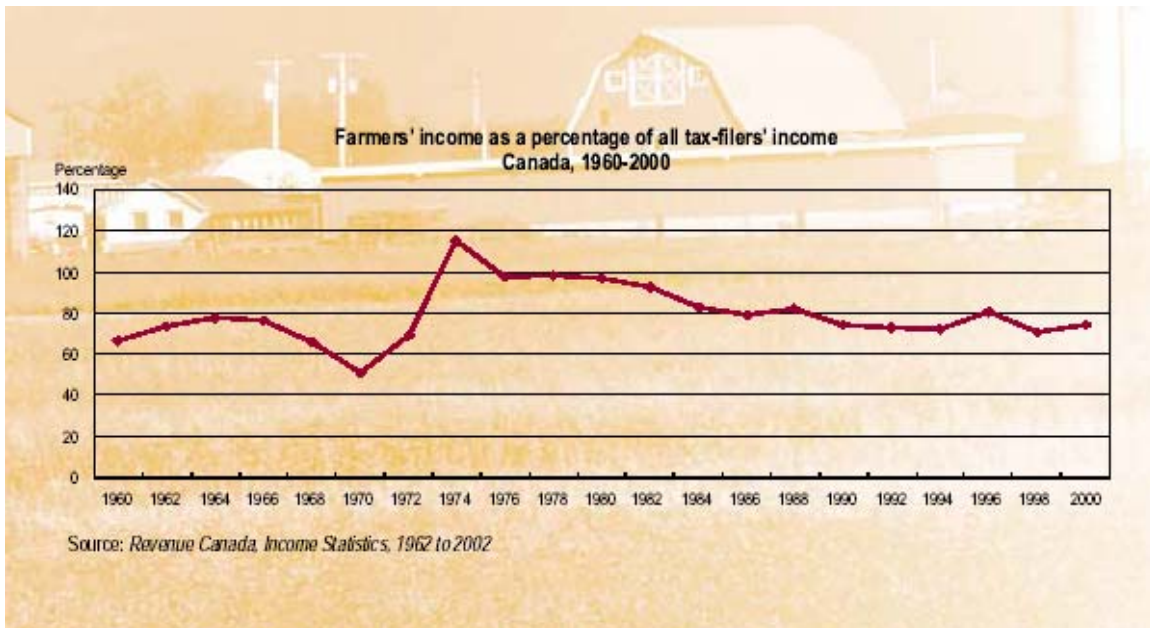
The long-run "farm problem". Demand for agricultural products is relatively price and income inelastic. As incomes rise, demand does not shift by that much. BUT, technological change has shifted out the supply curve. Result, significant downward pressure on prices.

B. Shortrun

1. Mainly price and therefore income instability: inelastic demand means shifts in supply in shortrun are magnified into big differential in price

III. IS THERE REALLY A MARKET FAILURE?

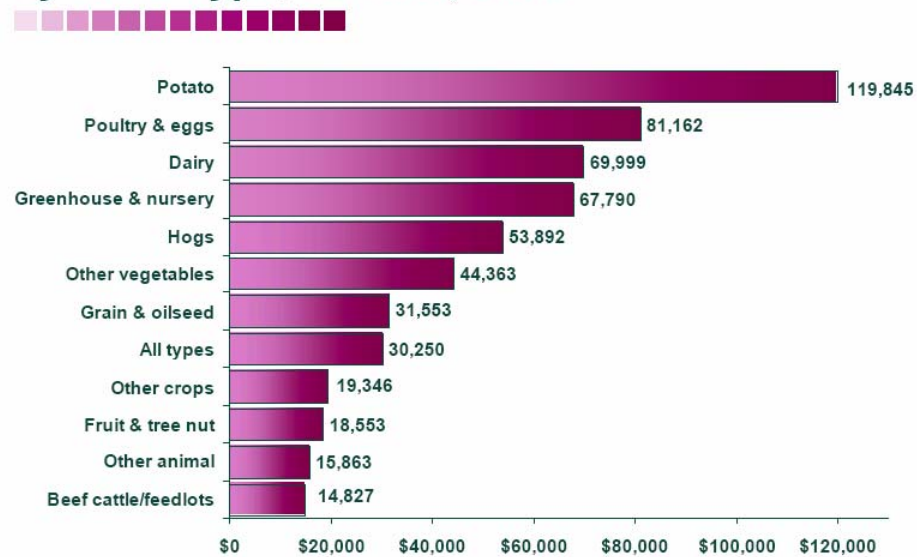
- A. Externality: self-sufficiency in food.
- B. Market power: farmers face some monopoly and monopsony power
- C. Equity: income level and income stability.
 1. Farm income level: do farmers get less than non-farmers?
Hard to measure.



There is a large variance between farmers.

	2002 Net Operating Revenue
Potato	\$119,845
Poultry and eggs	\$81,162
Dairy and milk production	\$69,999
Greenhouse & nursery	\$67,790
Hogs and pigs	\$53,892
Other vegetables and melons	\$44,363
Grain and oilseed	\$31,553
CANADA	\$30,250
Other crop	\$19,346
Fruit and tree nut	\$18,558
Other animal	\$15,863
Beef cattle and feedlots	\$14,827

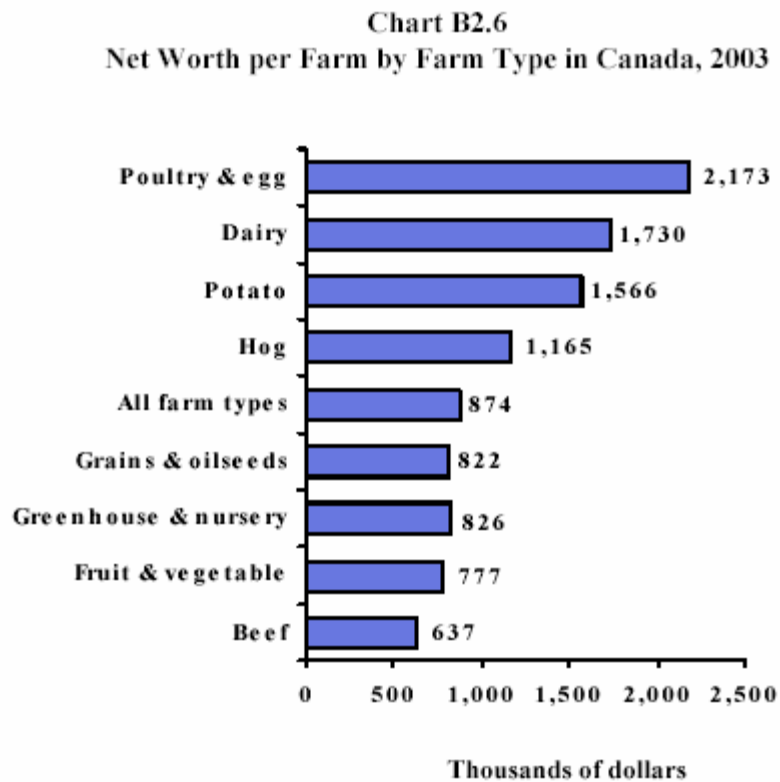
Average Net Operating Income* per Farm, by Farm Type, Canada, 2002



* Before capital cost allowance.

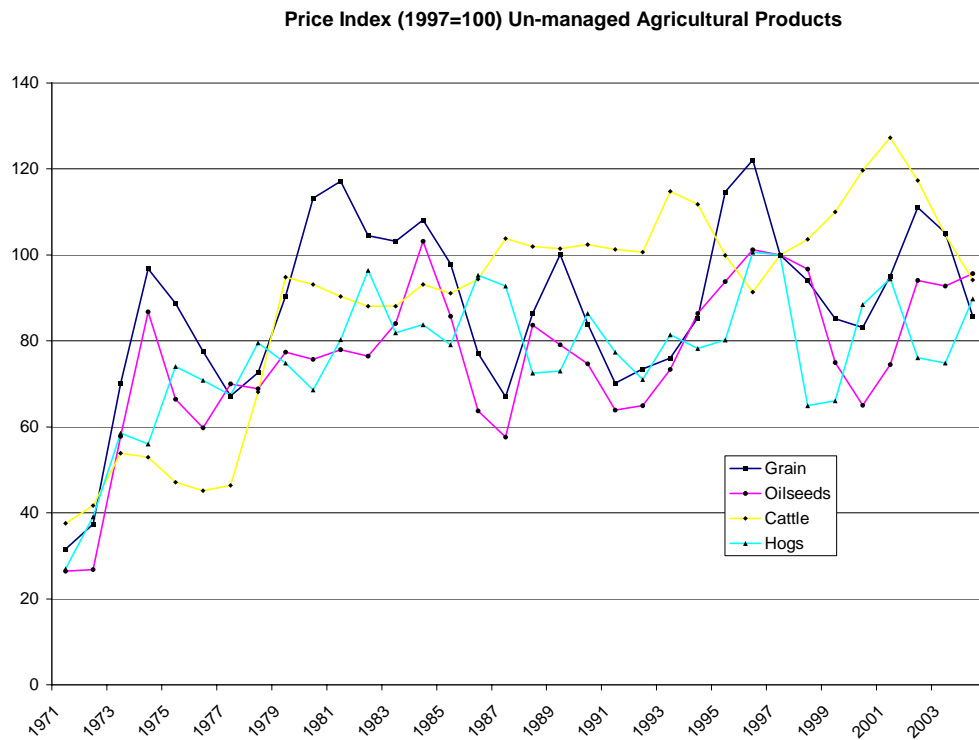
Source: Statistics Canada, Whole Farm Data Base, Taxation Data Program.

2. A major issue however is difference between income and wealth.



3. Also problem in variance in income. There is rural poverty, but certainly not amongst all farmers, only a fraction.
4. Farm income stability: It is unstable for products not "supply managed".

The price instability in the following chart will result in income instability.



IV. MAJOR QUESTION: WHY HAVE FARMERS BEEN SO SUCCESSFUL IN GETTING ATTENTION TO THIS COMMON PROBLEM OF INCAPACITY?

- A. Ans. policy is to shore up incomes, essentially is a commitment to support the small family farm. Why?
1. Inordinate political power of farm sector, traces back to real voter power at turn of century, currently based on extremely well organized farm interest groups, and disinterest of urban population, in turn tied to
 2. North American Ethos. Frontier spirit, inalienable right to stay on the land, roots, misconception that most farmers are dirt poor.

V. POLICY: Policy has been schizoid. has served to both increase production and shore up incomes.

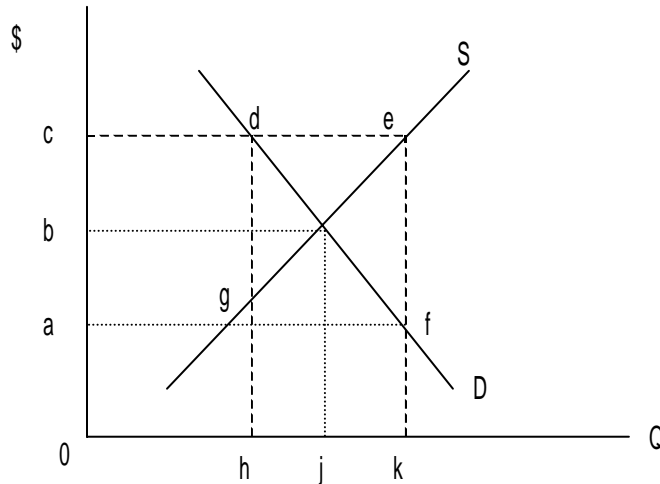
- A. Increase production:
1. R&D
 2. Education (extension services, 4-H, etc.)
 3. Subsidized Inputs
 4. Credit (Farm Credit Corp. DREE)
 5. Transportation (Livestock Feed Assistance Act, Crow's Nest Pass Agreement, explain this i.e. fixed rates at 1898 levels for export grains, in return for RR subsidies and land to CP, ultimately led to disintegration of grain transport system). System has been dramatically changed -- no more "Crow" subsidy.
 6. Land enhancement and expansion (irrigation, drainage, conservation).

Gov't Expenditure in Support of Agri-Food (Canada fiscal 2003-04) \$'000

	Provincial 2003-04	Federal 2003-04	Total
Operating Expenditures	633,476	1,260,579	1,894,055
Capital Expenditures	61,133	60,599	121,732
Program Expenditures	2,299,710	4,808,727	7,108,437
Income Support & Stabilization	857,426	3,159,097	4,016,523
Ad hoc & cost reduction	734,871	363,631	1,098,502
Crop Insurance	284,440	189,769	474,209
Financing Assistance	60,084	126,732	186,816
Storage & Freight	8,515	17,495	26,010
Social & Labour	12,274	3,667	15,941
Research	78,288	9,669	87,957
Food Inspection	44,585	68,384	112,969
Food Aid	-	586,640	586,640
Marketing & Trade	39,965	105,973	145,938
Rural & Regional Dev.	53,013	89,505	142,518
Environment	47,853	84,354	132,207
Education	50,705	788	51,493
Extension	20,593	3,020	23,613
Tax Expenditures	408,864	-	408,864
Gross Expenditures	3,403,183	6,129,905	9,533,088
Recoveries	-162,657	-32,900	-195,557
Net Expenditures	3,233,426	6,097,005	9,330,431

VI. Income subsidy programs. Three major types:

The economics of price supports and crop restrictions



Assume the equilibrium price is $0b$ and the equilibrium quantity is $0j$. Government decides, for whatever reason, that farmers should receive a price of $0c$.

1. Price support/offer to purchase. Government sets a price floor of $0c$. Farmers produce $0k$ but consumers will only purchase $0h$. There is a surplus of de (or hk). Government buys this and stockpiles it. Cost to government (taxpayers) is $hdek$ plus storage costs. Consumers lose, as $0c > 0b$. Notice that the more elastic is supply and/or demand, the greater the surplus.

2. Deficiency payments. Government sets price to farmers of $0c$. Farmers produce $0k$ and put it on the market. At price $0a$, consumers will purchase all of $0k$. Government "makes up the difference" to farmers of ac per unit. Cost to government (taxpayers) is $acef$. Consumers of the product benefit as $0a < 0b$. Notice that the more inelastic is demand, the greater will be the payment.

3. Crop restriction (marketing boards). Farmers are allowed to combine to restrict supply. They restrict supply to $0h$, price goes to $0c$. There is no surplus. There is no "cost" to government, but a significant cost to consumers of the product ($0c > 0b$). There is also a "cost" to new farmers attempting to enter the industry.

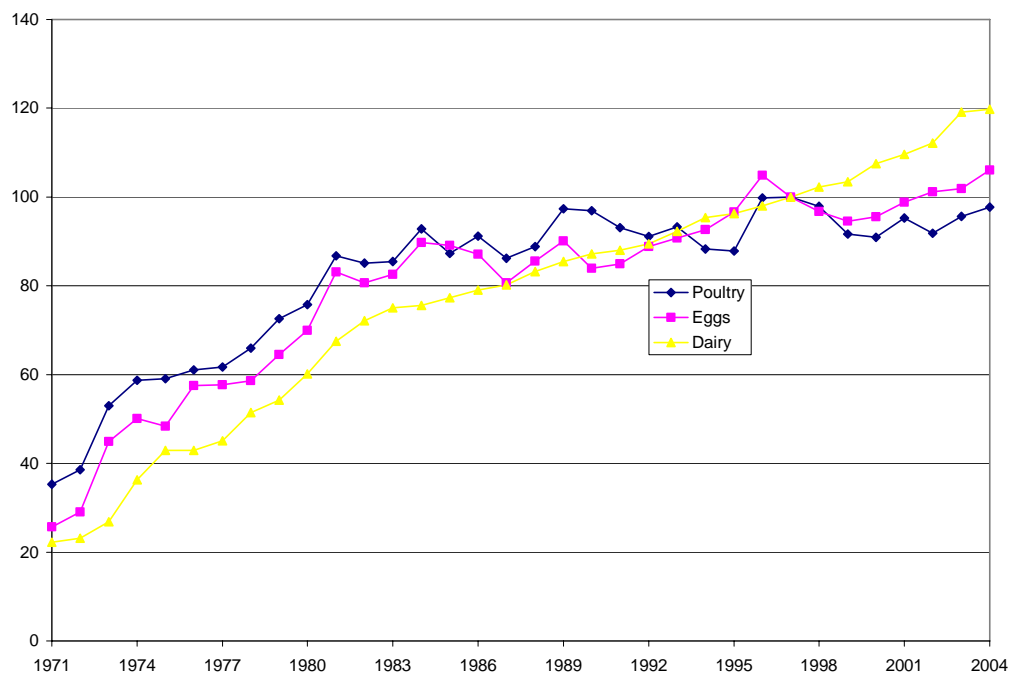
- A. Offers to purchase: basically price floors. Popular in the post WWII period up to late 1950s when surplus of products got expensive and embarrassing. Agriculture Prices Support Act of 1944, ran to 1958. Resulted in huge surpluses in butter, skim milk powder, eggs and pork. Resulted in enormous cost to government.
- B. Deficiency Payments. Gov't sets level of 'correct price' (often a formula, i.e. minimum price set at 80% of previous 10 yr average market or base price--this was formula for Agriculture Stabilization Act).
- C. Crop restriction. Main form for crop restriction is Marketing Boards.
 1. **MARKETING BOARDS:**nothing new about them, they really go back to the turn of the century. Roots are in the Grange movement of the late 1870s, resulted in agricultural coops for both buying and selling. Success of coops limited by voluntary nature of membership, very much like a cartel, continual problem of free-rider. Agriculture did very well during World War I, the "Golden Age" for agriculture. Then the crunch came in the 1920s, well before the Depression. World wide, especially in North America agriculture expanded during war to supply the belligerents. With peace, European agriculture was revived, result was overcapacity. Coops fell apart when world wide supply shifted out.
 2. What is a marketing board?
 - a) "A compulsory, horizontal marketing organization for primary and processed natural products operating under authority delegated by the government."
 3. Objectives:
 - a) to maintain or increase incomes of the producers of the product
 - b) to stabilize income from the sales of the product
 - c) to standardize the terms of sale of the product
 4. But what of the price fixing element, these are cartels.
 - a) Legality of the boards. Supreme Court decision of 1957 (Reference re: the Farm Products Marketing Act) found that "regulatory schemes based upon valid legislation were found not to be "to the detriment or against the interests of the public."
 5. **BOARDS HAVE WORKED**
 - a) Prices are well above costs for supply managed products. This is reflected in the value of quota
 - (1) Example: as of September 2003, the right to produce 1 kg of butterfat (about 25 litres of raw

milk) per year in BC was worth \$72 (or about \$2.88 per litre). A cow produces about 25 litres of milk a day, so the quota cost per cow was about \$26,000. A modest dairy is about 50 cows, so it costs about \$1.3 million for the right to get into the industry. The difference between the price received for the raw milk and the cost of production is reflected in the quota value.

- (2) Canada-wide:
 eggs, 13,000 hens (average) \$2 million for quota
 broilers, 28,000 birds (avg) \$1.7 million for quota

Compare the price stability (and nearly steady increases) in the prices of supply managed products.

Price Index (1997=100) Supply managed products



- b) Transitional gains trap
 c) Terrific expense in terms of misallocation. Better solution is to come to grips with the hard reality that the farm sector has no special rights in society. Programmes to help the rural poor should be aimed at them, not broadside at agriculture whereby rich and

poor benefit. Otherwise you get severe distortions, urban poor subsidize the rural rich.

Overall support of Agriculture (Canada)

	2001	2002	2003
		\$ million	
Total value of production (at farm gate)	32,563	32,600	32,621
Producer Support Estimate (PSE)	6,115	7,087	7,803
Market price support	2,932	3,471	3,746
<i>of which MPS commodities</i>	2,278	2,592	2,788
Payments based on output	364	229	418
Payments based on area planted/animal numbers	671	1,216	477
Payments based on historical entitlements	810	844	1,314
Payments based on input use	483	479	489
Payments based on input constraints	0	0	2
Payments based on overall farming income	888	725	1,112
Percentage PSE	0.17	0.2	0.21
General Services Support Estimate (GSSE)	2,225	2,576	2,564
Research and development	442	405	493
Agricultural schools	247	301	195
Inspection services	518	614	640
Infrastructure	441	636	536
Marketing and promotion	578	619	700
Public stockholding	0	0	0
Miscellaneous	0	0	0
Total Support Estimate (TSE)	8,340	9,663	10,452
Transfers from consumers	3,080	3,789	3,868
Transfers from taxpayers	5,409	6,241	6,833
Budget revenues (farmers' contribution)	-149	-366	-248

THE CASE OF GRAIN

- A U.S. Grain price support mechanisms
 - 1 Nonrecourse loans
 - 2 Acreage restrictions
 - 3 Deficiency payments
 - a Coupled
 - b Decoupled
 - 4 Farm Bill of 2002 (more of the same old)
 - a Direct payments (flat payments based on acreage, not production)
 - b Countercyclical payments (extra payment if price drops to low)
 - c Marketing loans (non-recourse)
- B Trade Wars with the EEU
- C Canada: Grain support - largely transportation based
 - 1 The "Crow Rate" 1897
 - a Fixed RR rates below market
 - b Impacts
 - i on RR
 - (i) infrastructure deterioration
 - (ii) branch lines
 - ii on product mix (export grain versus feed grain)
 - 2 Transportation subsidies largely eliminated in mid 1990s. Impacts
 - a Improved RR infrastructure
 - b Abandonment of branch lines/construction of "high-throughput" country elevators.
 - c Product mix, more feed grains more pigs and beef cattle
- D Current state of subsidies (2002)

Country	PSE on Wheat
Canada	18%
U.S.	30%
EEU	46%