

**Table 1 -- Agricultural policies in Mexico, 1993**

|                        |            | Corn       | Wheat     | Rice    | Barley  | Soybeans | Sorghum   | Beans 1/  | Total      |
|------------------------|------------|------------|-----------|---------|---------|----------|-----------|-----------|------------|
| Subsidies              |            |            |           |         |         |          |           |           |            |
| Credit                 | Mil. pesos | 100,601    | 38,982    | 4,481   | 6,818   | 16,316   | 28,863    | 61,695    | 257,756    |
| Insurance              | Mil. pesos | 913,618    | 69,194    | 11,673  | 1,764   | 29,061   | 41,172    |           | 1,066,482  |
| Irrigation             | Mil. pesos | 236,014    | 122,938   | 10,455  | 8,855   | 46,556   | 47,623    | 158,964   | 631,405    |
| Fertilizer             | Mil. pesos | 105,987    | 60,848    | 5,042   | 4,337   | 22,686   | 23,728    | 66,345    | 288,973    |
| Total                  | Mil. pesos | 1,356,220  | 291,962   | 31,651  | 21,774  | 114,619  | 141,386   | 287,004   | 2,244,616  |
| Production             | Mil. pesos | 14,543,080 | 2,204,530 | 156,321 | 431,489 | 495,000  | 1,409,721 | 2,777,450 | 22,017,591 |
| PIE                    | %          | 9.33       | 13.24     | 20.25   | 5.05    | 23.16    | 10.03     | 10.33     | 10.19      |
| Price support          | Mil. pesos | 3,143,640  | 632,467   | --      | --      | --       | --        | 71,659    | 3,847,766  |
| Tariff                 | %          | 0          | 15        | 10      | 0       | 10       | 0         | 0         | --         |
| Tariff equiv. of quota | %          | 83.00      | 57.00     | 0.00    | 102.00  | 0.00     | 0.00      | 51.00     | --         |

Source: USDA/ERS.

1/ Subsidy data for beans are from 1991. The producer incentive equivalent (PIE) refers to the sum of all subsidy expenditures that affect the output price.

**Table 2 -- Agricultural policies in Mexico, 1996, and their long term impacts**

| <b>Program</b>       | <b>1996 levels</b>  | <b>Long-term impact</b>   |
|----------------------|---|---|
| PROCAMPO             | Direct payments of 7.075 billion pesos (\$943 million)                                  | Zero payments, crop allocation becomes responsive to relative market prices |
| PRODUCE              | Fertigation, mechanization, pasture improvements  | Fertigation of 9 million ha., improvement of 9 million ha.                  |
| Technology transfer  | Education, equipment , and extension services for coffee, rubber, ccattle, and oilseeds | Productivity increases  |
| Meat production      | Productivity enhancing investments and subsidies  | Productivity increases  |
| Milk production      | Improved animal breeds and feed supplies  | Targeted 10% increase in milk output  |
| Technical assistance | 10,000 extension agents hired to improve grain production                               | Productivity increases  |
| Kilo per Kilo        | Exchange of 3,500 tons of seed benefiting 200,00 ha. dryland corn                       | 2.5 million ha. of dryland corn planted to improved varieties of seed       |

| <b>Table 3 - Major U.S. farm programs, 1993 and 1996</b>                     |  |   |
|--|--|---|
|  | <b>1993</b>  | <b>1996</b>   |
| Deficiency payments (\$bil)  |  |   |
| Wheat  | 1.9  | 0.0   |
| Corn   | 1.5  | 0.0   |
| Other feedgrains   | 0.7  | 0.0   |
| Other agriculture  | 2.0  | 0.0   |
| Total  | 6.1  | 0.0   |
| Production flexibility<br>contract payments (\$bil)                          | 0.0  | \$5.3;<br>cumulative program<br>expenditure of \$36 million<br>during 1996-2002 |
| Export Enhancement<br>Program (\$million)                                    | 937.8  | \$35;<br>cumulative program<br>expenditure of \$3,185<br>during 1996-2002       |
| Import quotas  | Converted under<br>GATT to tariff rate<br>quotas that are<br>reduced over time |   |
| Sources: Young and Westcott (1996), Ackerman (1996), Hanson, et al., (1995). |  |   |

**Table 4 — How Agricultural Programs are Modeled**

|                           | Program instruments: |            | Program:   |                               |
|---------------------------|----------------------|------------|--|-------------------------------|
|                           | Fixed                | Endogenous | United States                                      | Mexico                        |
| <u>Price Wedges</u>       |                      |            |  |                               |
| PVA, value added price    | vatax                | PIE        | Deficiency payment program                         | Input subsidies, vatax        |
| PD, domestic sales price  | itax                 | PSUB       | itax: indirect tax                                 | Millers' price subsidy        |
| PWM, world import price   | tm                   | TM2, TRQ   | Tariffs, quotas, and tariff rate quotas on imports | Tariffs and quotas on imports |
| PE, domestic export price | tee                  |            | EEP: Export enhancement program                    | Value added tax               |
| <u>Income Transfers</u>   |                      |            |  |                               |
| Household income          | dirpay               |            | U.S. direct payments                               | PROCAMPO direct payments      |

Notes:

PIE refers to “producer incentive equivalent.” In the model, the PIE variable equals the sum of all price-wedge instruments that affect the output price (PX). Tariff rates, tm, are fixed parameters. The tariff equivalent of a quota, TM2, is a variable determined endogenously, given the fixed import quota.

**Table 5 -- Model scenarios**

|  |  |
|--|--|
| 1. NAFTA                                       | Free bilateral trade except tariff rate quotas on U.S. horticultural imports; Mexican imports of corn, beans, dairy products.  |
| 2. PROCAMPO/ALLIANCE                           | (1) Direct payments of 7.1 billion 1996 pesos<br>(2) No input subsidies<br>(3) No milling subsidies or fixed retail prices.  |
| 3. U.S. FAIR Act                               | (1) No deficiency payments<br>(2) Direct payments of \$4 billion<br>(3) Land supply increased 15 million acres<br>(4) Export promotion expenditures maintained at 1993 levels. |
| 4. Combined NAFTA, PROCAMPO/ALLIANCE, FAIR Act | Sensitivity experiments over:<br>(1) Productivity growth in Mexico<br>(2) World price increases.   |

Note: In NAFTA experiments, Mexican tariff rate quotas on orange juice and sugar are not included, due to sectoral aggregation of the model.



**Table 6 - Mexico's output and exports to the U.S. (% change from base)**

|                         | (1) NAFTA   |             | (2) PROCAMPO |            | (3) FAIR Act |             | (4) All policies |             |
|-------------------------|-------------|-------------|--------------|------------|--------------|-------------|------------------|-------------|
|                         | Output      | Exports     | Output       | Exports    | Output       | Exports     | Output           | Exports     |
| <b>Total agric.</b>     | <b>0.5</b>  | <b>24.5</b> | <b>0.2</b>   | <b>4.6</b> | <b>0.0</b>   | <b>-0.6</b> | <b>0.7</b>       | <b>28.2</b> |
| <b>Farm sectors</b>     | <b>-1.0</b> | <b>28.4</b> | <b>0.4</b>   | <b>6.1</b> | <b>-0.1</b>  | <b>-0.8</b> | <b>-0.9</b>      | <b>33.0</b> |
| Poultry                 | 3.0         | 0.0         | 0.4          | 0.0        | -0.3         | 0.0         | 3.4              | 0.0         |
| Livestock               | 2.0         | 9.8         | 1.2          | 2.2        | -0.2         | -0.8        | 3.2              | 12.1        |
| Wheat                   | -2.6        | 0.0         | -15.0        | 0.0        | 3.6          | 0.0         | -14.1            | 0.0         |
| Corn                    | -31.9       | 0.0         | -4.1         | 0.0        | -1.7         | 0.0         | -39.8            | 0.0         |
| Oth. feedgrain          | 26.0        | 0.0         | -4.0         | 0.0        | 11.4         | 0.0         | 31.7             | 0.0         |
| Horticulture            | 15.9        | 35.4        | 5.5          | 7.4        | -0.6         | -1.5        | 21.0             | 40.0        |
| Beans                   | 8.6         | 23.9        | 4.5          | 8.5        | -0.1         | -0.1        | 14.4             | 36.7        |
| Oilseeds                | 15.2        | 34.0        | -43.7        | -45.3      | -10.3        | -11.5       | -42.4            | -35.6       |
| Other agric.            | 0.1         | 13.0        | 0.8          | 3.5        | 0.3          | 6.2         | 1.4              | 25.3        |
| <b>Total food mfgs.</b> | <b>1.1</b>  | <b>2.9</b>  | <b>0.2</b>   | <b>0.2</b> | <b>0.0</b>   | <b>0.0</b>  | <b>1.7</b>       | <b>13.3</b> |
| Meat                    | 1.1         | 8.9         | 0.9          | 1.4        | -0.1         | -0.6        | 2.0              | 10.3        |
| Dairy                   | 1.2         | 10.4        | 0.9          | 1.4        | -0.1         | -0.5        | 2.2              | 12.0        |
| Prep. hort.             | 1.5         | 11.5        | 0.4          | 0.5        | 0.0          | -0.1        | 1.9              | 12.2        |
| Wheatmills              | 2.2         | 30.1        | -0.9         | -1.5       | -0.2         | 0.3         | 1.0              | 28.4        |
| Feedmills               | 2.0         | 11.7        | 0.7          | -0.3       | -0.5         | -0.8        | 2.6              | 11.4        |
| Cornmills               | 5.8         | 16.1        | -1.0         | -1.6       | 0.1          | -2.0        | 5.5              | 13.7        |
| Quillmills              | 0.6         | 11.6        | -0.8         | -1.5       | 0.5          | -0.9        | 0.1              | 9.2         |
| Misc. Foods             | 0.3         | 11.9        | 0.2          | 0.3        | 0.0          | 0.0         | 0.5              | 12.6        |

Note: Output and exports are reported in real terms.

**Table 8 - U.S. output and exports to Mexico (% change from base)**

|                         | <b>(1) NAFTA</b> |                | <b>(2) PROCAMPO</b> |                | <b>(3) FAIR Act</b> |                | <b>(4) All policies</b> |                |
|-------------------------|------------------|----------------|---------------------|----------------|---------------------|----------------|-------------------------|----------------|
|                         | <b>Output</b>    | <b>Exports</b> | <b>Output</b>       | <b>Exports</b> | <b>Output</b>       | <b>Exports</b> | <b>Output</b>           | <b>Exports</b> |
| <b>Total agric.</b>     | <b>0.0</b>       | <b>42.3</b>    | <b>-0.1</b>         | <b>2.3</b>     | <b>0.4</b>          | <b>-0.5</b>    | <b>0.4</b>              | <b>49.9</b>    |
| <b>Farm Sectors</b>     | <b>0.2</b>       | <b>69.4</b>    | <b>-0.1</b>         | <b>4.1</b>     | <b>0.6</b>          | <b>-1.3</b>    | <b>0.9</b>              | <b>82.2</b>    |
| Poultry                 | -0.1             | -5.9           | -0.1                | 0.0            | 0.6                 | 0.9            | 0.4                     | -5.6           |
| Livestock               | -0.2             | -3.0           | -0.2                | -1.2           | 0.7                 | 1.4            | 0.3                     | -3.4           |
| Wheat                   | -3.1             | 61.1           | -0.2                | 4.3            | -7.4                | -10.1          | -7.0                    | 60.0           |
| Corn                    | 3.4              | 398.0          | 0.0                 | 11.4           | 1.9                 | 11.9           | 5.7                     | 473.0          |
| Oth. Feedgrain          | -6.2             | -35.5          | 0.5                 | 8.3            | -7.0                | -20.2          | -11.2                   | -42.8          |
| Horticulture            | -1.0             | -8.4           | -0.6                | -3.2           | 2.2                 | 2.8            | 0.7                     | -9.3           |
| Beans                   | 0.0              | 83.9           | 0.0                 | -5.9           | 0.0                 | 0.1            | 0.0                     | 70.8           |
| Oilseeds                | -1.1             | 4.5            | 0.1                 | 12.9           | 7.2                 | 9.2            | 5.1                     | 27.8           |
| Other agric.            | 0.3              | -0.5           | -0.2                | -2.7           | -5.3                | -6.7           | -5.3                    | -10.5          |
| <b>Total food mfgs.</b> | <b>-0.3</b>      | <b>4.5</b>     | <b>-0.1</b>         | <b>-0.1</b>    | <b>0.3</b>          | <b>0.8</b>     | <b>0.2</b>              | <b>4.8</b>     |
| Meat                    | -0.2             | 2.1            | -0.2                | -0.7           | 0.7                 | 1.1            | 0.4                     | 2.2            |
| Dairy                   | -0.1             | -5.0           | -0.1                | -0.6           | 0.4                 | 0.8            | 0.2                     | -5.1           |
| Prep. hort.             | 0.2              | -4.2           | -0.1                | -0.3           | 0.2                 | 0.3            | 0.3                     | -4.4           |
| Wheatmills              | -0.2             | 6.3            | -0.1                | 0.5            | -0.6                | -1.0           | -0.7                    | 6.1            |
| Feedmills               | -0.1             | 4.8            | -0.1                | 0.8            | 0.8                 | 1.1            | 0.5                     | 6.4            |
| Cornmills               | -0.9             | -4.0           | -0.2                | 0.5            | 2.7                 | 3.1            | 1.2                     | -1.5           |
| Ouillmills              | -0.3             | 12.9           | -0.1                | 0.6            | 2.5                 | 2.9            | 1.7                     | 16.1           |
| Misc. Foods             | 0.2              | 11.8           | -0.1                | -0.2           | -0.1                | -0.1           | 0.0                     | 11.1           |

Note: Output and exports are reported in real terms.

| <b>Table 7 -- Labor migration effects of policy shocks (thous. workers)</b> |                        |                           |                           |                      |
|---|------------------------|---------------------------|---------------------------|----------------------|
| <b>Migration flow</b>   | <b>Scen. 1 - NAFTA</b> | <b>Scen. 2 - PROCAMPO</b> | <b>Scen. 3 - FAIR Act</b> | <b>Scen. 4 - All</b> |
| Mexico rural - U.S.<br>rural  | 9.9                    | -14.0                     | -6.0                      | -5.9                 |
| Mexcan urban - U.S.<br>urban  | 407.0                  | -221.4                    | 18.7                      | 211.7                |
| Mexican rural-urban   | 515.4                  | -249.2                    | 20.7                      | 296.1                |
| Total Mexican-U.S.  | 416.8                  | -235.3                    | 12.8                      | 205.9                |
| Note: Change in migration refers to change from equilibrium flow.           |                        |                           |                           |                      |