

Experience with Decoupling Agricultural Support

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Rod Ziemer Lecture

April 14, 2004

1. INTRODUCTION

High agricultural protection, particularly in developed countries, has been the norm for most of the past half century. The core policies leading to this protection consist of import tariffs, quantitative restrictions, and domestic subsidies. The stated objectives of such protection are numerous, but raising income to small family farms is by far the most frequently used justification (Winters 1989). Because most of this support is based on current input use, output, and prices, it also induces overproduction. The aggregate effect of such support, given the weight of industrial countries in the global trading system, depresses world commodity prices, reducing the export shares of countries which do not support their agricultural sectors. Furthermore, support is costly and often goes to unintended beneficiaries—unintended as they relate to the stated objectives—thus exacerbating rather than eliminating the presumed income inequalities that justified its introduction in the first place.

Given the harmful effects of such support on world markets along with the mismatch of stated objectives and ultimate outcomes, one would be tempted to advocate its outright elimination. Societies have the right to transfer income to certain groups as they deem necessary. Thus, the relevant question is not the existence of support but how it can be given without creating negative effects on the rest of the world, i.e. how to increase farmers' incomes without increasing production.

One—and perhaps the only—effective way to bring a socially acceptable and politically feasible reform is to replace payments linked to current production levels, input use, and prices by payments which are decoupled from these measures. Decoupled support was discussed in the literature as early as 1945. Early agricultural policy reform attempts with decoupling elements, however, failed. For example, the 1949 Brannan plan in the United States—which proposed cash payments to farmers when their overall income fell below a certain level—was defeated in the US Congress. Similarly, the Mansholt Plan of 1967, which advocated support in order to finance mandatory retirement for older farmers in Europe, also failed.

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The first attempt towards decoupling was taken by the United States with the 1985 Farm Bill when support changed from being based on current yields to historical yields. The European Union partially replaced intervention prices by direct payments following the Common Agricultural Policy reform of 1992. Mexico replaced price support by direct payments in 1994 with the introduction of PROCAMPO. The United States replaced deficiency payments with decoupled support in the 1996 farm bill. More recently Turkey replaced part of price support and input subsidies by direct payments. In addition to broad decoupling attempts there have been numerous one-time buyouts, including New Zealand's exit grant in 1984, the buyout of Canada's crow rate transportation subsidy, and more recently the buyout of the US peanut marketing quota under the 2002 Farm Bill.

This paper analyzes the experience with decoupling, identifies its shortcomings, and offers potential remedies. First, it looks at the history of decoupling as a concept as well as a policy move. Second, it makes a clear distinction between decoupling to replace domestic support versus decoupling to replace border support. Third, it reviews and evaluates a number of one-time buyouts, the best forms of decoupling. Finally, it looks at the externalities of decoupling, especially as they apply to middle and low income countries, namely, poverty issues, instituting land title reform, and credit provision.

2. WHAT IS DECOUPLING?

Decoupling, both as a concept and as a policy move, has different meanings amongst economists, policy makers and trade negotiators. Some see it as a transition mechanism to a fully competitive sector. Others see it as another support program, albeit with less production and trade distorting effects. Decoupling is sometimes defined only for those programs that are designed to transfer income to producers; others define it in terms of all programs including those, for example, to improve the environment. Others measure decoupling to include the way in which the policy is implemented in that there is also no change in the underlying production structure. Sometimes commentators evaluate the degree of decoupling to include dynamic, long run effects of a policy in increasing output due to the policy's impact on such factors as uncertainty, investment and expectations.

The first discussion on agricultural policy reform with decoupling features goes back to 1945 when the American Farm Economic Association announced 18 awards for papers submitted on the subject entitled "A Price Policy for Agriculture, Consistent with Economic Progress, that will Promote Adequate and More Stable Income from Farming." Nicholls and Johnson (1946)—recipients of the first- and second-place award, respectively—presented a 15-page summary of the main findings of the 18 award-winning papers. On several occasions the recommendations closely resembled decoupled

support. For example (p. 281):

Cochrane presents a special formula for progressively smaller income payments for aiding producers in adjusting their operations from a support level to a free market situation. These declining payments would be based on production during 1939-41, so that the producer would not be 'tied to commodity in surplus to receive a payment benefit.' Thus, he could shift to some other product during the payment period without losing the specified payments.

Perhaps the first author who explicitly advocated decoupled support in US agriculture was Swerling (1959). Two characteristics make Swerling's proposal are quite interesting. First, he advocated a safety net mechanism for agriculture similar to those in other sectors of the economy (e.g. unemployment insurance). Second, he proposed that the benefits of the decoupled support should be linked to income declared in tax returns during the recent past (not historical production or area). Specifically, he wrote (p. 179-80):

Removal of this price stimulus is long overdue ... an income-insurance plan for farm-operators [should be in place] that included the following elements: (1) ... benefits will be related to income experience of the particular individual during the recent past; (2) the purpose would not be to support income at artificially high levels but to prevent a severe temporary decline in individual income; (3) the right to benefits would attach to the person, not to farm land or the farm enterprise, and would accordingly not be transferable; (4) the benefit to be enjoyed by any individual would not exceed a modest maximum; (5) benefits would not be conditioned upon the production of particular commodities or even upon continued employment in agriculture ...

Another early decoupling proposal in Europe was put forward by Nash (1961, p. 188):

Instead of obstructing the withdrawal of farmers from an industry which cannot adequately reward them, ... an unconditional payment to all those at present engaged in farming, or to those of them deemed to be need of compensation, calculated by the reference to the difference between the incomes now earned under the protective system and those capable of being earned under a system of free market prices. An annuity calculated in this way and payable for life to all engaged in farming, but not transferable to their successors, would, in theory at least, make it possible to bring the protective system to an end while fully making good the loss of income to its present beneficiaries. There is no doubt that compensation of this kind is feasible..

Numerous definitions of decoupling can be found in the proceeding of the workshop "Decoupling: The Concept and its Future in Canada" in 1988. Consider the following two rather contrasting views. Van Donkersgoed (1988) from the Christian Farmers Foundation of Ontario defined decoupling as (p. 40): "a program in which eligibility is not linked to production, the production potential of resources or the production effort of a farm entrepreneur; rather eligibility is linked to stewardship farming practices, marketing, the maintenance of rural communities, diversified ownership of the assets of production, moderate-sized family enterprises and other rural, non-production valu-

ables that add to the quality of Canadian life." Spriggs and Sigurdson (1988) on the other hand simply stated (p. 93): "In fact, a program to eliminate subsidies would be the ultimate in decoupling. It is the only truly decoupled program that there is."

Cahill (1997, p. 351) defines a policy to be *fully decoupled* from production of any crop if: "it does not influence production decisions of farmers receiving payments, and that permits free market determination of prices (facing all farmers, whether or not receiving income support)". On the other hand, a policy is *effectively fully decoupled* if "the provision of the compensatory payment package results in production that, for any crop, does not exceed that level that would exist without compensation." OECD (2000a) defines decoupling in a similar way.

Hennessy (1998) defines decoupled payments to include those that may be triggered by ex-post market or production conditions, although the payment level is not conditioned on an individual's specific level of production. Disaster relief measures, for example, would be considered decoupled because they are not affected by the individual's level of production.

Goodwin and Mishra (2002) argue that a fully decoupled payment is one for which the level of payment is fixed and guaranteed and thus is not influenced by *expost* realizations of market conditions (e.g., low prices or area yields). This is the most narrow definition of all because payments cannot change nor can the rules of eligibility and criteria determining the base criteria be changed. If one adds a time limit to this definition, then decoupling simply implies a number of annual payments made to producers. In an environment of well-functioning financial markets, these bonds can be converted into a single payment. In such a setting, decoupling would consist of an administrative decision to remove existing distortions followed by a single payment, a radical policy initiative. In fact, a number of authors have advocated a fundamental reform of CAP the last step of which would consist of a bond (see, for example, Beard and Swinbank (2001), Swinbank and Tangermann (2001), Tangermann (1991)).

3. THE ECONOMICS OF DECOUPLING

Decoupling can be viewed as two distinct transition mechanisms: one replacing domestic support and one replacing border measures. The key variable driving this distinction is the source of financing of the original support measures: consumers *versus* taxpayers or a combination of both. Replacing domestic measures of support such as production subsidies by decoupled support is straightforward in the small country case and can be shown to be a Pareto improving move. Instead of providing output-based subsidies, the government makes lump-sum payment to producers based on some historical criteria without any constraint or requirement on the current use of their resources. Under the lump-sum scheme, producers can receive higher payments because welfare losses (the so-called triangles) are no longer in place. Taxpayers can also be better off if part of the

efficiency gains is translated to lower taxes. Because both relevant groups (producers and taxpayers) can be made better off, decoupling in the production subsidy case is clearly a Pareto improving move.

Decoupling in the case of an import tariff, however, is a more complicated as it would involve elimination of tariff, raising additional taxes, and distributing these taxes to producers. Producers are no worse off (they receive the same amount of support) and consumers are better off (they pay lower prices), taxpayers are worse off in two respects: first, they lose the tariff revenue and second they must finance the decoupled support. Assuming that welfare losses due to border measures are higher than welfare losses due to domestic subsidies, then the move is welfare improvement. However, it is not a Pareto improvement. Furthermore, while the removal of the import tariff implies welfare gains, the introduction of the tax implies welfare losses. In fact, Alston and Hurd (1990) argued that (p. 155):

Currently it is fashionable to argue for 'decoupling' farm programs in the sense that income transfers should be achieved with minimal consequences for commodity markets. Along with the benefits from transparency, the benefits from decoupling may be illusory. The issue here is whether the costs of distortions in commodity markets are necessarily greater than the costs of distortions introduced elsewhere in the economy to finance 'decoupled' transfers.

Moschini and Sckokai (1994) claim that the welfare losses of raising new taxes to finance decoupling are unlikely to be larger than the welfare gains from decoupling. Beghin, Bureau, and Park (2003) estimated that in Korea for every \$1 transfer to producers, it costs taxpayers \$1.61. Parry (1997) based on a general equilibrium model found that the efficiency cost of taxpayer-financed lump-sum transfers to agriculture equals 27 percent of the amount of income transfer. Since most of the support is at the border, decoupling is likely to be a complicated exercise with mixed outcomes.

4. EXPERIENCE WITH BROAD DECOUPLING ATTEMPTS

Partially decoupled support was introduced in the United States with the 1985 Farm Bill and in the European Union with the 1992 reform of the Common Agricultural Policy. Programs designed to be entirely decoupled were first introduced in Mexico with the PROCAMPO program of 1994, followed by the United States with the FAIR Act of 1996, and more recently Turkey with the Direct Income Support Program of 2001 (which is still being implemented). This section describes the initial design of these programs, and catalogues the changes in policy details as time progressed (see table 1 for the chronology of these decoupling and recoupling episodes).

The United States

The budgetary outlays for most US commodity programs are authorized by the Congress (and subsequently approved by the President) every few years through various

Acts, also known as *Farm Bills*. There have been 20 such *Acts* since the enactment of the first one in 1929, including a 1934 Supreme Court decision which declared unconstitutional the main provisions of the *1933 Agricultural Adjustment Act*.

Beginning with the New Deal farm programs of the 1930s, the central feature was price supports achieved through a combination of taxpayer funded production subsidies and supply controls with acreage set-asides and the accumulation, maintenance and disposal of public stocks. The payment rate was based on the difference between the target price (set by the government) and the higher of the market price or the price at which the government would value crops used as collateral for loans made by a public corporation. The total payment was equal to the yield per acre multiplied by a farm's eligible payment acreage (the amount of land devoted to cultivation of the crop in question). This portfolio of policy instruments were the primary means of price support for the major field crops for decades until the 1980s.

The Food Security Act of 1985 set a new trend for the major field crop sector by reducing the role of acreage set-asides and public stockholding and moving towards decoupling with the 'freeze' on payment yields (i.e. not allowing farmers to change yields from one year to another). Perhaps, 'freezing' yields was the first considerable decoupling attempt (i.e. decouple payments from current yields and link them to historical yields). Payment yield was established for each farm by the US Department of Agriculture, based on the average yields 1981-85. By the mid-1990s, acreage set-asides and public stockholding were largely abandoned and then eliminated with the introduction of the Federal Agricultural Improvement and Reform Act (FAIR) in 1996. FAIR also banished the target price for which deficiency payments were calculated but maintained the lower fixed price called the 'loan rate' which was used to trigger public stock purchases in the past. To compensate for the removal of the link between support, prices, and production, the 'production flexibility contract' (i.e. decoupled) payments were introduced. These payments were made to participating producers in proportion to what they had received during 1990-1995, or could have received if they had enrolled in the programs back then. The payments based on historical benefits were in turn determined by a farmer's historical production. Each participating producer received a fixed schedule of payments that was supposed to gradually decline through 2002. Although not specifically stated, it was implicitly assumed that the payments would end by 2002.

The effect of the 1996 Farm Bill on the structure of the budgetary outlays shown in table 2, which gives a breakdown of the producer support estimate into market price support—a measure of border protection—and budgetary support—a measure of domestic support. The budgetary support is further decomposed into support based on output and input use (considered as having a large impact on production and trade, or fully coupled support) and support based on area, historical entitlements, input constraints, and overall farm income—considered as having a smaller impact on produc-

tion and trade, or partially decoupled support (for further details and definitions see OECD 2000b). Historical entitlements, which did not exist prior to 1996 represented more than one third of the total budgetary support during 1996-98. Area payments, on the other hand, declined from \$5.4 billion in 1993-95 to \$1.2 billion in 1996-98. During these two periods, output payments also increased (from \$0.2 to \$1.2 billion), primarily a reflection declining commodity prices and consequently increased loan rate payments.

Although payments were made on a crop by crop basis, planting was not required or restricted to any crop, but payments were tied to 85% of fixed base area (average of acres planted or prevented from being planted for covered crops of wheat, feed grains, rice and cotton) and to fixed payment yields. Hence, the payments were independent of current production and therefore, farmers had far greater flexibility to make planting decisions (or not plant at all). Producers were free to allocate their land to any crops on the “contract acres”, except fruits and vegetables, but must maintain their land in “agricultural use”. Hence, producers were to depend more heavily on the market and also bear greater risk from increased price variability.

The FAIR Act was meant to be a transition toward a new policy environment characterized by a diminished government role in commodity markets. Commodity prices declined sharply in the late 1990s, thus triggering three major policy events reversed much of what was accomplished by the FAIR Act. First, emergency payments were introduced approximately equal to 50% of decoupled payments in 1998 and 100% of decoupled payments in 1999, 2000 and 2001. Second, market prices fell below the loan rate, prompting the government to extend the marketing loan program by issuing, *inter alia*, loan deficiency payments. These set of loan programs has the same economic effects as the previous deficiency payment scheme. Third, the 2002 *Farm Bill* was introduced that increased several loan rates, allowed updating of base acres and payment yields, allowed soybean acreage to be added to the base, and introduced 3 more crops into the loan rate scheme. The 2002 Farm Bill formalized the emergency payments into a new ‘counter-cyclical’ scheme where payments vary with price but not quantity.

The emergency measures that were introduced in 1998 along with the 2002 Farm Bill changed the structure of the budgetary outlays considerably (in the reverse direction compared to the 1996 shift). Between 1996-98 and 1999-2001, historical entitlements increased by more than 50 percent (from \$6.6 to \$10.1 billion), area payments increased twofold, while payments based on output increased more than fivefold (table 2), implying that support is less decoupled now than it was after 1996.

The European Union

The principal vehicle of support in the European Union has been the Common Agricultural Policy (CAP). The origins of CAP go back to 1956 with the Spaak Report which

suggested that agriculture requires a special treatment. The Stresa Conference of 1958 outlined CAP's three guiding principles: free flow of agricultural commodities within the common market, preference to member states, and common financing. CAP, which was formally put into place in 1962, was to (i) increase agricultural production; (ii) ensure a fair standard of living for the agricultural community; (iii) stabilize markets; (iv) guarantee regular supply of agricultural commodities; and (v) ensure reasonable prices to consumers. These objectives were to be achieved through a number of domestic price support measures, export subsidies as well as trade barriers common to all farmers of the (then) 6-nation community (Belgium, France, Germany, Italy, Luxembourg, and the Netherlands). Within a few years, the first and last objective were fully met. Soon, however, concerns were raised regarding excess production and the fact that if the policies did not change, the budgetary requirements of CAP would reach unsustainable levels.

A reform of the CAP was attempted in 1972, following the recommendations made under the 1968 Mansholt Plan which proposed, among other reforms, lump-sum transfers to 5 million farmers in order to retire them from farms and thus reduce active farmland by 5 percent. In effect, this was the first attempt to decouple. The Mansholt plan, however, was never implemented.

The first major reinstrumentation of the CAP took place in 1992. The 1992 CAP reform—also known as the McSharry reform, named after the EU's then Commissioner for Agriculture Ray MacSharry—together with the Blair House Accord of the United States paved the way for the signing of the Uruguay Round Agreement on Agriculture in 1994. For cereals, oilseeds and protein crops and for beef and veal, prices hitherto supported by import levies and/or export refunds, were reduced and farmers were compensated with direct payments. For crops, payments are based on 85 percent of historical plantings (with a paid minimum area set-aside requirement, a further paid voluntary set-aside up to 30 percent of historical area and a base acre limit for payments set at the national or regional level). The area payment rates vary by crop type and the set-aside payments were initially higher but are now equal. The only requirement is the land had to be planted by arable crops, temporary grass or set-aside. Small scale farmers producing less than 92 tonnes of cereals are exempt from set-aside and receive an 'all cereals' payments irrespective of crop planted (representing 25 percent of area but 70 percent of farmers). Table 3, gives a summary picture of the structure of the EU support. Between 1986-88 and 1993-95 budgetary support in the EU increased threefold (from \$13.4 to \$40.3 billion) while border support declined from \$80 to \$76 billion. Most of the increase in budgetary support during this period is due to area payments and to a limited extent historical entitlements and input constraints.

While the level of support remained unchanged, its structure changed considerably following the 1992 reforms. For example, the producer support estimate for 1989-92 and 1992-95 averaged \$117 billion. However, border protection measures declined from \$93 billion in 1989-92 to \$76 billion in 1993-95. Support based on output declined

from \$7 to \$3 billion during these two periods. At the same time area payments increased from \$7 to \$24 billion. Therefore, the 1992 CAP reform was a good step towards decoupling.

Under *Agenda 2000*, price support to crops declined, direct payments increased and were realigned across all crops, and reference yields changed in some countries. A push toward more rural development expenditures was also made. A large transformation of policy re-instrumentation has therefore occurred away from border protection and input subsidies to direct payments. Total support has a downward trend, especially in grains and oilseeds. More than the increase in budgetary allocations, which remains moderate compared to the other expenditures, the growing importance of rural development seems to follow from the official reference to it as the ‘second pillar of the CAP’.

CAP is currently under review and gives the EU the flexibility to overhaul any policy in light of changes in market developments, costs, enlargement, WTO (and other) trade negotiations, food crises and any other pressure for reform. The budget for *Agenda 2000* did not include provision for extending direct payments to farmers in Eastern Europe, making reform a requirement. The EU meanwhile has launched free trade negotiations with Mercosur and the “Everything But Arms” initiative with least developed countries. Because Mercosur includes some major agricultural exporting nations, EBC will result in increased imports—especially for sugar, rice, and bananas— and hence further reform of the CAP will be necessary. Recent food crisis calls for reform, sometimes for more regulation and controls over production practices, including animal welfare. Against this background, the European Commission midterm review of *Agenda 2000* proposes a set of reforms that include further decoupling, continue set-asides and implement more cross compliance rules with statutory environmental, food safety and animal health and welfare standards.

It is important to note that current EU compensatory payments still influence the farmer’s decision on how much land to plant. This holds true not only because farmers are obligated to produce cereals on the base acres to receive the payments, but also because area payments in the EU are made on an aggregate fixed area base that is set at the national or regional level. Individual farmers do not have a base area—just eligible acres for which they receive payments and have area set-asides. If the regional base area is exceeded, the per-unit subsidy is prorated downwards proportionately for all farmers. Because the prorating occurs on the total area planted *ex post*, farmers have an incentive to overplant in order to maximize their share of the fixed budget outlays, or to defend against share erosion due to overplanting by other producers. This means that the area payments are fully coupled in plantings because an individual farmer is not penalized for his own decision to overplant. Area payments with a national base area are therefore not a limit on total acres planted.

For EU cattle, the headage payments that are under “production limiting” arrangements are anything but production limiting because (1) farmers are allowed to

keep more cattle than are eligible for payments, so there is no absolute production control, and (2) the number of animals eligible is not limited to numbers on farms prior to the payments being instituted in 1992. Where numbers of animals were below the maximum that could be claimed per farm, farmers have had an incentive to expand their stock of animals up to the limits on which payments are made. As such, the incentives in the program have been to encourage expansion of animal numbers initially and then to lock production in at around the levels that are consistent with the maximum number of animals that is eligible for payments. Those numbers reflect the very high levels of support for several decades as well as the incentives inherent in the headage payments.

The CAP reform agreement of June 2003 requires at least 75 percent of payments to be decoupled in the arable sector and at least 50 percent of the value of payments in the beef and sheep sectors. Dairy premia will be added into the single farm payment after 2007. The decoupled single farm payment will be based on average payments claimed over the three year reference period 2000-2002 and will be paid per eligible hectare of land. Entitlements can be sold with or without land. Member states are offered some flexibility in what year they begin, fully or partially decouple within the limits for each sector, give 10 percent of the payments for environmentally friendly farming, and restrict entitlement trading within a region. All payments are to be reduced 3, 4 and 5 percent for 2005, 2006 and 2007, respectively. Support prices will also decline. Payments will be conditional on compliance for various measures including environmental and acreage set-asides.

Flexibility in coupled versus decoupled arrangements sets up the possibility for farmers to argue for decoupled payments when they see other farmers not having to do anything to obtain these payments. The threat of countervail, especially if the peace clause is not extended, will also put pressure on those governments to switch to decoupled payments.

Mexico

About one quarter of Mexico's population depends on agriculture. The sector's contribution to total GDP is currently estimated at 5 percent, down from 9 percent two decades ago. According to the OECD, total transfers to agriculture averaged \$7 billion annually during 1999-2001, \$5.7 billion of which went directly to producer support. This support corresponds to \$1,000 per full-time farmer equivalent and \$53/hectare, both of which are considerably lower than the OECD averages of \$11,000 per farmer and \$192 per hectare. About 29 percent of producer support went to maize, followed by milk (21 percent) and sugar (13 percent).

Traditionally, CONASUPO (Compania Nacional de Subsistencias Populares) Mexico's agricultural parastatal, has been heavily involved in the marketing, transpor-

tation, storage, and processing of most agricultural commodities. Maize, beans, and wheat, by far the most important agricultural commodities have been heavily subsidized through a system of guarantee prices. The government also set panterritorial and panseasonal prices, which were usually announced before planting decisions were made. CONASUPO bought unlimited quantities at the guarantee prices. Hence, producers knew in advance the price they were going to receive and shifted production to those crops with the highest degree of relative protection, rather than with the highest profitability according to world prices. Note that the poorest peasants did not benefit from guarantee prices as they hardly produced for market.

In 1994, Mexico's PROCAMPO (Programa Nacional de Modernización del Campo), a decoupled support program, was introduced to provide income support to grain and oilseed producers—about 90% of all Mexican farmers. PROCAMPO replaced the old scheme of guarantee prices and does not support production of specific commodities, but farmers' income. Hence, production and trade should become less distorted. PROCAMPO also is distributionally more attractive than the earlier guarantee price-support because poor subsistence farmers are eligible for payments and there is a ceiling of 100 hectares on the amount of land that any single farmer can use to justify payments.

Government credibility became also a major issue. Initially, some producers did not believe that the government would actually implement the program. Fearing increased taxation, they underreported land allocated to eligible commodities. Furthermore, the fact that PROCAMPO initially delinked payments from the current use of land but later required that the land continue to be allocated to the eligible crops may have further discredited the government. (In 1996 the government increased the number of eligible crops.) The macroeconomic environment also played an important role. When PROCAMPO was in the design phase, most commodities were highly protected. However, following the 1994 devaluation of the peso, protection was sharply reduced.

Despite these shortcomings the program has at least two features that improve income distribution (sometimes at the cost of more inefficiency). First, decoupled payments are distributed disproportionately to smaller farm sizes because (i) they are given for the minimum of one hectare regardless of the actual size of farm and for a maximum of 100 hectares and (ii) output subsidies increase the farther away a farm is from the major market center (the average farm size decreases with distance from major markets). Second, land reforms allow small farms now to rent out approximately 10 percent of their land to larger farmers. These features can have a significant positive impact on income distribution compared to historical guaranteed prices where many small farmers did not benefit because they were often net buyers, sold prices at distressed prices at harvest, or where not integrated with market price centers due to transactions costs.

As was the case in the US, however, Mexico reintroduced its price support in 2002. New counter-cyclical payments, similar to the ones that the US introduced in its

2002 Farm Bill, would take effect from the 2002/03 marketing year and would be equal to the difference between the target price and the sum of the market price and PROCAMPO payments. These payments would apply to 8 commodities. In addition to these payments, a new common subsidised price for electricity used for agricultural production was introduced (estimated to cost \$0.6 billion annually.)

The most visible change in Mexican agricultural policies, according to the OECD figures reported in table 4, is the move from support based on input use to support based on historical entitlements (i.e. PROCAMPO payments). Border measures are still the dominant component of support accounting for 64 percent of producer support during 1999-2001.

Mexico's decoupled payment program encountered a number of problems. The program was announced well in advance of the registration of eligible producers. The lag allowed many farmers to increase the amount of land in production of the eligible commodities so as to increase their future payments. So rather than moving resources to more efficient uses, the scheme, initially at least, moved more resources into production that was already inefficient. Moreover, because land rights among landowners, tenants, and sharecroppers were unclear, it was difficult to determine who is entitled to the payment.

Turkey

The agricultural sector in Turkey employs 43 percent of the total labor force while its value added as a share of total GDP is about 16 percent, down from 26 percent in 1980. Total agricultural support in Turkey reached an annual average of \$9.7 billion during 1999-2001, \$6.5 billion of which was direct producer support, according to the OECD. Agricultural support as share of GDP is 5.1 percent, the highest among OECD countries and almost 4 times the OECD average of 1.3 percent. This support corresponds to \$162 per hectare, compared to \$192 per hectare average for OECD. Sugar accounts for 13 percent of producer support estimate, followed by milk (11 percent) and wheat (10 percent). The main policy instruments in Turkey have taken the form of border measures, administered prices, input subsidies, and budgetary payments. Considering that Turkey's per capita GDP is a little over \$3,000, the budgetary strains that this support imposes on the economy should not be underestimated.

Responding to the high cost of support along with its distortionary effects, in 2001 Turkey embarked in a major agricultural policy reform program with World Bank assistance (World Bank 2001). One of the main components of the project was the replacement of administered prices and input subsidies by Direct Income Support (DIS) payments. In addition to the DIS, which is granted on annual basis, a one-off farmer transition payment was also granted to cover the cost of diverting from over-produced and highly subsidized commodities to other commodities.

The rate of DIS was set at the equivalent of \$100 per hectare; but even this seemingly low level of transfer implied an eventual annual expenditure of \$1.9 billion . Initially the upper limit was set to 20 hectares but in 2002 it was raised to 50 hectares. As was the case in Mexico, one strategic choice made under the DIS program was to give a minimum payment for farmers cultivating below a certain threshold, thus allowing small subsistence farmers (who otherwise received no support) to benefit from the program.

There were a number of difficulties and hence a number of hard choices that had to be made following the decision to implement Direct Income Support (DIS) in Turkey. The most important difficulty was associated with records (as was the case in Mexico). In order to deal with this problem a pilot program was set up, the objective of which was to test alternative methods of DIS implementation and in particular alternative methods to develop registry for producers.

The pilot program was carried out in several districts in 4 provinces around the country. The process of registering beneficiaries was developed using two different methods. The first method, applied to two provinces, used the existing land registry records. The second method, applied to the two other provinces, was based on certifications issued by the chief of the village (muhtar), the council, and the local farmer associations. Payments were made on a per hectare basis for up to 2 hectares in two installments. The pilot, was carried out between April and September 2000, benefited a total 9,681 farmers at the cost of US \$2.3 million. The program benefited small farmers unlike the previous system of subsidies.

Numerous problems were encountered during the implementation of pilot program. There were unclear descriptions of land registration; shared titles/deeds (i.e. multiple owners) did not specify the amount of land that each person owned; Many land owners did not possess deeds after inheritance. Land was under court proceedings, thus not registered. registration procedures were unclear while various 'producer certificates' were issued without any standards. There were many cases of sharecroppers with no official documents who were made ineligible for participation. Other problems included: people possessing deeds to non-farm land (e.g. land flooded due to dam construction); claims for benefits where land was not in agricultural use; outright false claims by farmers.

There were also problems with the design and implementation of the pilot. For example, information given to farmers about the program was insufficient, consequently many farmers failed to apply for the program (especially in remote villages). The training and information given to most entities related to the pilot were inadequate. The period allocated for the application was not sufficient.

The dominant component of agricultural support in Turkey is in the form of border measures. During 1999-2001, for example, producer support estimate averaged \$6.5 billion. Of that \$5.1 billion was transferred through border measures. It is worth noting,

however, that a small portion of market price support was partially replaced by historical entitlements due to the DIS.

5. EXPERIENCE WITH ONE-TIME BUYOUTS

In addition to the broad decoupling attempts, numerous one-time buyouts have taken place in the last two decades. In many respects, these buyouts have been much more successful than the broader decoupling attempts. Important one time buyouts include the US tobacco buyout, the EU grapevine buyout, the 2002 US peanut quota buyout, Canada's Crow Rate Transportation buyout, and the New Zealand exit grant. The remaining of this section discusses the latter three buyouts.

The United States 2002 Peanut Quota Buy-out

The US peanut program goes back to 1934 when peanut producers agreed to reduce their acreage in return of a payment. The program failed to reduce output and was revised in 1941 by introducing individual acreage allotments and instituting penalties to farmers who produced additional acres; compliance with the program, however, was not enforced. The Agricultural Act of 1949 established support prices for peanuts and until 1978 all peanuts from approved allotments were guaranteed the support price. The program again run into financial difficulties primarily because of the introduction of high-yielding varieties. Beginning in 1978, producers received support for quota-peanuts only, with the quota being set annually in terms of pounds. During 1979-82 farmers were required to own both quantity and acreage allotments; the acreage allotment was abandoned in 1982. Quantity quotas were tradable with some exceptions. In addition to quotas there was a ban on imports. First, the costs of the program grew enormously. Second, peanut manufacturers pressed for reforms because they wanted access to lower priced peanuts. Third, after NAFTA peanut products were allowed to come duty free from Mexico and Canada.

While some modifications took place in 1996, the biggest change came with the 2002 Farm Bill when the government bought out the marketing quotas created in 1978. Eligible quota holders were to be compensated by payments for the lost value of the marketing quota during the fiscal years 2002-06. The payments, made in five equal installments with the amount to be paid to each quota holder equal to \$0.11/lb per year times the actual quota allotment for the 2001 marketing year. The quota owners can also opt to take the undiscounted sum of all the payments in the first year, equal to \$0.55/lb (or \$1.21 per kilogram). Given an average effective quota for 1998-2000 is 5.6 million tons the total cost of the buyout is expected to cost \$181 million per year or \$1.4 billion for the entire 5-year period. During the same period, the annual value of the US peanut production was \$3.1 billion (8.79 million tons times \$355 per ton).

There were a number of factors that led to this change. First, pressure came from a

trade agreement. Second, an industry group opposed the existing program. Third, the fiscal costs of the program increased enormously. Fourth, in addition to the quota buy-out, peanut producers will be compensated by receiving support from the other provisions of the 2002 Farm Bill (i.e. decoupled and counter-cyclical payments).

Canada's Crow Rate Transportation Subsidy Buyout

Canada's Crow Rate program goes back to 1897 when Canadian Pacific (the dominant Canadian railway company) was given a subsidy of \$3.4 million in order to build a line between Alberta and British Columbia. In exchange for the subsidy, Canadian Pacific agreed that the transportation charges to grain farmers would be 20 percent less than the (then) prevailing rates. The 1925 *Railway Act* made the subsidized rates statutory. Over the years the Crow subsidies were extended to numerous commodities. Not only the subsidy became fiscally unsustainable, but because of the higher prices received by Western grain farmers due to the transport subsidies, value added industries (especially livestock production), moved to Central and Eastern Canada because of lower grain prices (Klein and Kerr 1995).

In 1995 the Canadian government decided to terminate the program. To ease the transition, a one-time payment of \$1.6 billion CDN was made to eligible farmers. An additional \$300 million was invested in a more efficient grain handling and transportation system. The one time payment was spread over two fiscal years and made to owners of prairie farmland with eligible crop grown in 1994 and summer fallow land in 1993, adjusted for a productivity factor, distance factor and provincial allocation factor.

Eligible crops were those that were eligible for subsidies under Western Grains Transportation program upon which the annual subsidies it replaces were based on. There was also special tax treatment for the monies which had no restrictions on use. The tax concession payments were treated as a capital gain rather than as current income. The OECD calculated this concession to be valued at \$0.6 billion.

The outcome has been positive overall, with the lower grain prices lifting a constraint on the value added industries, encouraging entrepreneurship and innovation, leading to diversification into specialty crops, lowering land prices and exposing the industry to trade challenges. The increased transportation costs helped diversify agriculture, boost the value added sectors in livestock production and canola processing, and brought Canada into compliance with international trade agreements.)

The 1984 New Zealand Exit Grant

Prior to 1984, New Zealand's farmers were receiving generous support in some years as high as 40% of the value of production. In 1984, the government abolished the subsidies. With the New Zealand economy almost on the brink of bankruptcy and faced with deteriorating external markets, inflation and historically high interest rates, the gov-

ernment had no choice but to eliminate almost 30 different production subsidies. Although the end of agricultural subsidies took place in conjunction with deregulation of the entire economy and reduced input costs, the effects of currency appreciation and low commodity prices during 1985-87 made the transition stressful.

In order to assist with the transition, the government provided financial assistance through a one-off “exit grant” for farmers leaving the land, equivalent to about 66 percent of the previous annual income. Also, farmers with extremely low incomes were temporarily entitled to social welfare income support, as were others in the rest of the economy. Farmers were also offered limited financial advice. There was no substantive effort to soften the effect of change. However, only 1 percent of the farms failed, with significant adjustments occurring in the form of off-farm employment, input use and output mix.

Since 1986-87 the value of economic activity in New Zealand’s farm sector has grown by over 40% in constant dollar terms and its contribution to the economy has risen from 14.2% of GDP in 1986-7 to 16% in 1990-00. The removal of farm subsidies has proven to be a catalyst for productivity gains from 1% in 1986 to current average annual 5.9%. With agriculture based largely upon pastoral farming, New Zealand has around 80,000 farm holdings. Sheep and beef farms and dairy farms account for 20% and 18% of the total number of farms respectively. Horticulture, forestry, cropping and rural tourism contribute to its agricultural sector which employs 11.4% of the work force. About 80% of New Zealand’s farming outputs are exported and agricultural exports (especially sheep meat and dairy products) account for over 50% of New Zealand’s total merchandise exports.

Early predictions of large numbers of farmers leaving the land did not occur. About 1% of the total number of farms faced bankruptcy. Land prices, kept artificially high by subsidies, plummeted with their removal. Marginal land reverted to bush and subsidy-driven land management problems ended. Now farmland values have more than recovered as farm profitability has been restored. Farmers reduced costs and focused on producing higher value products where profitable. Many restructured debts and continued farming, adjusting farm practices in order to reduce input costs. With investment decisions now subject to commercial and good farming disciplines, agricultural input suppliers were forced to become more competitive thereby contributing to the competitiveness of the agricultural sector.

6. ASSESSING DECOUPLING

The primary motivation for decoupling is to compensate farmers for the move to free markets with transitional adjustment assistance while at the same time making it politically palatable and transparent. Ideally, one would like compensation programs that are universal (open to all sectors in the economy, not just agriculture) or at least non-sector

specific within agriculture. A non-product specific payment scheme covering all farmers is a plus (for example, the whole farm income insurance program in Canada which is based on taxfiler data—see Agriculture and Agri-Food Canada). Such a program dilutes the maximum payment per farm and so inefficiencies and inequities are minimized (along the lines discussed by Swerling almost half a century ago).

Decoupling is important to developing countries in reducing trade distortions and increasing world prices for their exports. The observed move to decoupled agricultural policies, therefore, is undeniably a step in the right direction. But how much has the world moved to decoupled payments? And what has been the net effects on resource use, efficiency and trade distortion?

In answering the first question, total direct support to agricultural producers in OECD countries as measured by the producer support estimate averaged \$235 billion in 2000-02, of which 63 percent came from border measures. The rate of protection has declined while the share of domestic support has increased. Most support is concentrated in a few sectors (milk, meats, and sugar). In several countries most of the protection comes in border support (e.g., Japan, Korea, Turkey). Although the absolute level of producer support has remained fairly constant since 1986-88, taxpayer-financed subsidies paid directly to farmers have increased significantly. From 1986-88 to 2000-02, domestic subsidies to farmers in the OECD increased 60 percent with “large” impact programs (output and input subsidies) increasing moderately compared to the substantial increases in so-called “smaller” impact programs. The latter include subsidies for land area and animal numbers; decoupled historical entitlements; and payments based on input use and overall farm income. In particular, payments on area planted and animal numbers have increased the most, followed by historical entitlements. However, several countries have not made much progress in reforming the composition of support away from border support to domestic support (e.g., Japan and Switzerland) while others have not required substantial reforms in the first place (e.g., many members of the CAIRNS Group).

The experience in designing and implementing the four programs described above has been mixed. The countries studied here have moved away from border support to domestic support and have also moved toward less distorting domestic support. Although there is evidence that there has been a reallocation of resources between sectors in agriculture as a result, the decline in total output and increase in world prices have been modest. Although coupled subsidies have been unevenly distributed amongst sectors (e.g., less in major field crops versus sugar and livestock), there are other mitigating factors for no significant reductions in output. Eligibility rules have changed, allowing expectations for future support to be related to current production. Expectations about future policies and dynamic consideration - producers will develop expectations of future assistance based on past government actions, thereby affecting current production decisions. Substantial sums of decoupled payments can result in

wealth effects. The experience shows that less than ideal decoupled programs still distort trade, especially when large sums of monies are involved because of fixed cost effects which allows farmers to effectively cross-subsidize production through their effects on farmers' ability to cover fixed and/or variable costs.

Imperfect input markets result in direct payments affecting farmers' investment and exit decisions if there are constraints facing them in capital and labor markets. Direct payments allow banks to make loans that they otherwise would not and also allow farmers with specialized skills to stay in agriculture.

If indeed the motivation for decoupling is to compensate farmers with transitional adjustment assistance to free markets, then one simple and least distorting way would be a one time unconditional payment to all those engaged in farming or deemed in need of compensation as an annuity and is nontransferable to successors, along the lines of the one-time buyouts discussed earlier.

However, because a one-time buyout is an unlikely outcome (unless it is well-targeted in one sector), specific attention should be given to constraints on input use, government credibility, the existence of other support programs, and a time limit (a detailed discussion of these conditions along with WTO's potential role on decoupling can be found in Baffes and de Gorter (2003)). Unless these aspects are properly addressed, then decoupling is likely to have similar effects of another subsidy program.

First and foremost, there should be a maximum number of years to receive payments. The EU and Turkey have no limit; the US had (at least implicitly) one in the 1996 Farm Bill but violated it three years later. Mexico has one and has not extended payments to date. A time limit restriction will ensure that payments are transitory and for adjustment purposes only.

The existence of other coupled programs complicates the matter and interacts with the decoupled program, thereby not eliminating the incentives to overproduce. All four decoupling cases examined here either left other coupled support programs in place or added new ones.

Eligibility rules need to be clearly defined and not allowed to change, nor can the time period for which payments are based change nor can payments be increased or sectors added to the program. The updating of bases and adding crops results in a government credibility problem, making the decoupling policy time inconsistent. As market conditions change, the governments have discretion later to change the eligibility criteria and payments, thereby being unable to make a binding commitment. The problem stems from the fact that farmers meanwhile change their production decisions in response, thus preempting decoupling.

Support to specific sector(s) within agriculture should be in the form of taxpayer funded payments that should not require production. Indeed, land, labor or any other input should not have to be in "agricultural use".

The experience shows the difficulty in designing effective decoupling schemes.

But such strict criteria are required to minimize direct trade distortions because sector specific decoupled support can still affect output indirectly through wealth effects and reducing constraints in credit and labor markets. One possible avenue to improve the performance of decoupling schemes is to have the WTO to specify the conditions or otherwise governments are subject to countervailing duties or have to provide compensation for such affects.

Table 1: Chronology of Broader Decoupling and Recoupling Episodes

<i>Year</i>	<i>Country</i>	<i>Policy Change</i>
1985	United States	1985 Farm Bill introduces ‘frozen’ government payment yield per acre.
1992	European Union	MacSharry reforms of the CAP reduce price supports and introduce direct payments linked to historical area planted (with ‘frozen’ government payment yield per hectare) or number of animals (but farmers need to produce to receive payments).
1994	Mexico	PROCAMPO introduces payments based on historical acres up to 2008 with a phase-out of import barriers under NAFTA, input subsidies and activities of the state trading monopoly.
1996	United States	1996 Farm Bill eliminates target prices, replacing it with decoupled historical entitlements, the so-called ‘production flexibility contract’ payments, to end in 2002.
1996	Mexico	Base acres can be switched to other crops or enterprises and rural development policy is launched to foster productivity.
1998	United States	Introduces ‘emergency market loss assistance’ payments, effectively reversing the 1996 Farm Bill.
2000	European Union	Agenda 2000 extends, deepens and widens the MacSharry reforms.
2001	Turkey	Introduces the Direct Income Support program which reduces some administered prices and input subsidies. Only minor changes in border policies.
2002	United States	Extends PFCs, formalizes emergency payments as ‘counter cyclical’ payments, adds new crops to PFC program, allows base acres and payment yields to be updated; increases price supports for coupled subsidies; and introduces 3 new crops to the coupled subsidy program.
2002	Mexico	Re-introduces target prices—similar to the loan rate in the US—and input subsidies. PROCAMPO remained largely unchanged.
2002	European Union	Mid-term Review of 2002 results in June 2003 agreement to switch most direct payments to decoupled payments with entitlements sold with or without land while the level of payments and support prices are to decline in 2005-2007.

Source: Authors

Table 2: Composition of Agricultural Support in the US, billion US \$

	1986-88	1989-92	1993-95	1996-98	1999-2001
Value of Production	143,537	168,615	184,239	199,990	192,417
Total Support Estimate	68,540	72,779	79,060	81,715	95,455
Producer Support Estimate	41,839	34,326	31,091	36,384	51,256
Market Price Support	19,533	17,825	16,969	17,864	18,662
Budgetary Support	22,306	16,501	14,123	18,519	32,594
<i>Output</i>	2,919	510	241	1,644	9,285
<i>Input Use</i>	6,526	6,574	6,003	6,088	6,877
<i>Area</i>	11,313	6,897	5,396	1,247	2,722
<i>Historical Entitlements</i>	0	0	0	6,647	10,085
<i>Input Constraints</i>	637	1,776	1,963	1,940	1,844
<i>Overall Farm Income</i>	912	743	520	954	1,780

Source: OECD database

Table 3: Composition of Agricultural Support in the EU, billion US \$

	1986-88	1989-92	1993-95	1996-98	1999-2001
Value of Production	214,849	275,770	286,658	291,427	237,990
Total Support Estimate	109,654	138,927	133,050	129,328	112,628
Producer Support Estimate	93,719	117,097	116,519	111,966	99,343
Market Price Support	80,257	93,282	76,084	64,989	60,863
Budgetary Support	13,446	23,327	40,279	47,468	38,693
<i>Output</i>	5,009	6,769	2,999	3,945	3,644
<i>Input Use</i>	5,025	7,135	8,133	8,446	6,540
<i>Area</i>	2,701	6,987	24,326	29,419	24,733
<i>Historical Entitlements</i>	0	559	1,466	1,007	597
<i>Input Constraints</i>	711	1,877	3,356	4,650	3,178
<i>Overall Farm Income</i>	0	0	0	2	0

Source: OECD database

Table 4: Composition of Agricultural Support in Mexico, billion US \$

	1986-88	1989-92	1993-95	1996-98	1999-2001
Value of Production	15,412	25,209	26,186	27,033	30,328
Total Support Estimate	1,287	8,121	7,558	4,858	6,999
Producer Support Estimate	-266	5,718	5,060	3,190	5,694
Market Price Support	-1,710	4,025	2,918	1,495	3,625
Budgetary Support	1,444	1,692	2,142	1,695	2,068
<i>Output</i>	1	26	52	4	110
<i>Input Use</i>	1,442	1,663	1,308	676	721
<i>Area</i>	0	3	6	62	61
<i>Historical Entitlements</i>	0	0	776	925	1,112
<i>Input Constraints</i>	0	0	0	0	0
<i>Overall Farm Income</i>	0	0	0	27	63

Source: OECD database

Table 5: Composition of Agricultural Support in Turkey, billion US \$

	1986-88	1989-92	1993-95	1996-98	1999-2001
Value of Production	18,343	26,859	29,158	34,068	29,458
Total Support Estimate	3,092	7,212	6,027	10,705	9,649
Producer Support Estimate	2,779	6,127	4,675	7,791	6,522
Market Price Support	1,884	4,784	2,712	5,710	5,093
Budgetary Support	895	1,344	1,962	2,081	1,429
<i>Output</i>	11	30	242	104	337
<i>Input Use</i>	885	1,314	1,720	1,978	957
<i>Area</i>	0	0	0	0	0
<i>Historical Entitlements</i>	0	0	0	0	136
<i>Input Constraints</i>	0	0	0	0	0
<i>Overall Farm Income</i>	0	0	0	0	0

Source: OECD database

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