

Chapter 8.

Conclusions and recommendations

This study provides an assessment of the effects of agricultural policy reforms in Mexico since 1990 on the basis of the shared goals and policy principles of OECD Ministers.¹ These goals and principles constitute a framework of policies that address a range of societal needs that can be met by the agricultural sector with the least cost and least unintended consequences. Typical unintended consequences of agricultural policies that fall short of these principles are distorted markets, economic inefficiencies, inequitable redistribution of incomes, and unsustainable use of resources. At the international level, unintended implications are distorted world markets and trade. The focus of this study on the agricultural sector, and more specifically on production agriculture, limits the scope of the conclusions and recommendations. Many further reforms in agricultural policy must be taken in tandem with improvements in policies of other sectors or nation-wide.

Directions of agricultural policy

The direction of agricultural policy reform in Mexico since the early 1990s is broadly consistent with the shared goals and policy principles of the OECD Ministers. Highly interventionist policies of the past have been curtailed, with objectives more effectively met by policies that target better the intended outcome while generating fewer distortions to trade and to resource allocation. However, there remains scope for further reforms.

The policies in place at the start of the 1990s clearly did not correspond to OECD Ministers' shared goals, nor did they effectively address the policy aims of Mexico.

- Import barriers and the government's intervention in markets, chiefly through CONASUPO, dictated prices and handled much of the distribution of commodities, so **pre-reform policies prevented responsiveness to market signals**.
- Because they depended on barriers to imports, **pre-reform policies did not promote integration into the multilateral trading system**, for most commodities.
- **Pre-reform policies did not help consumers to access adequate and reliable food supplies**. Public expenditures to subsidise consumption were not well targeted, and the rural poor — the majority of the poor — paid the higher prices prevailing in rural areas due to the price support system.
- **Pre-reform policies did not lead producers to improve efficiency, nor to innovate, and failed to provide opportunities to improve their standards of living**. As support to agriculture was delivered through output and input prices, the benefits were not available to subsistence farmers. Commercial producers were tied to the narrow range of traditional commodities that were supported with little scope

to diversify to other crops or activities, or to adapt directly to consumer needs. At the same time, much of the benefits leaked away from producers, and the plight of hired labourers was not much improved. The land tenure system limited efficiency and innovation by disallowing renting and selling of land, therefore perpetuating small-scale farming.

- **Pre-reform policies did not contribute to sustainable management of natural resources.** As agricultural support was tied to outputs and inputs such that support would rise with the level of agricultural activity, producers were encouraged to over-exploit resources, exacerbating the pressure on water supplies, the erosion of soil and the already alarming rate of deforestation.
- **Pre-reform policies did not contribute to food security at the household, national or global level.** Mexico was disconnected from trade and thus prevented from exploiting its own comparative advantage, reducing purchasing power in Mexico and its trading partners. Higher food costs for poor people undermined a critical element of food security. The failure to respect natural limits on exploitation of the environment undermined long-run food security.
- The potential for agricultural policies to contribute to the **socio-economic development of rural areas** including the generation of employment opportunities is not a primary focus of this study. Nevertheless, the urban bias of many pre-reform policies, including agricultural policies, the narrow focus of agricultural policies on a few commodities, and the rigidities of the land tenure system hampered the agricultural sector in contributing to broad economic growth in rural areas.

Mexico's ambitious agricultural policy reform actually began in the 1980s, but the most important steps were taken since 1990. Direct government intervention in pricing and distribution processes was gradually eliminated. Commitments were made to bind and reduce barriers to agricultural trade in the multilateral setting of the Uruguay Round, and Mexico agreed to even steeper cuts in bilateral agreements – including the eventual elimination of such barriers under the North American Free Trade Agreement (NAFTA). By means of PROCAMPO transitional payments, however, the effects of these cuts on the income and well-being of producers was at least partly offset. Mexico allowed internal consumer prices to fall, while at the same time re-orienting poverty alleviation measures towards the rural poor. Mexico adopted principles fundamental to good resource management, namely “user pays” and “polluter pays” principles, and took steps towards implementing them.

The marked progress Mexico has made in the course of its reforms to agricultural policies is evident, though so too are some remaining problems – policy areas where OECD principles could be more rigorously applied. Major programmes can be ranked from those that correspond most closely to the OECD Ministers' shared principles to those that correspond least.

- The use of payments based on historical entitlement, **PROCAMPO**, as an income transfer programme during the transition period of NAFTA ranks well. Relative to market price support, this programme performs particularly well by increasing the sector's exposure to market prices and integration with multinational trade, efficiency and sustainability, and contribution to development. However, PROCAMPO falls somewhat short of the ideal: land prices would be affected in the event that a land market was developed, and it provides an incentive to increase production. PROCAMPO is transparent, particularly in contrast to tariff-generated

market price support. PROCAMPO is better targeted than previous policies, even though it has two different objectives: commercial farmers are provided adjustment assistance during the implementation period of NAFTA as reflected by the requirement that one of the crops whose prices were likely to be affected was grown on the land; and subsistence farmers' needs are addressed because they are not required to have sold commodities, as well as by the minimum payment. PROCAMPO also provides greater flexibility, as the land-owner is permitted to engage in any one of a long list of agricultural activities or even to leave land idle as long as it is in an environmentally friendly condition. PROCAMPO is the least regressive of the major agricultural programmes, and is actually progressive relative to income.

- The array of **programmes to facilitate access to financial markets** address objectives that were formerly addressed using BANRURAL, a government agency that intervened directly in rural finance. They offer innovative mechanisms to encourage farmers to invest to improve productivity and efficiency. These programmes also offer substantial improvements in transparency. Equity, though, may vary widely among programmes. Many of the largest programmes target commercial producers of varying sizes whereas poorer applicants cannot provide the required matching funds. Another government effort at direct intervention continues in the form of *Financiera rural*. Finance programmes that are limited to the agricultural sector or even to a specific commodity, may not be sufficiently flexible, thereby discouraging diversification of investment and activities in rural areas. Finally, although seemingly well targeted and tailored in terms of recipients and their needs, the real target would seem to be the under-developed private financial sector in rural areas, and agricultural programmes are unlikely to be the best mechanism to address this fundamental deficiency as compared to financial sector policies.
- Agricultural policy reform has addressed certain **institutional arrangements** with success, chief among these being the decentralisation of decision-making and policy implementation. Decentralisation has brought about greater transparency through rules that require public notices of the planned uses of funds and of bids sought and bids won. Basing allocations of federal funds among regions on formulae that use observed data also increases transparency, as well as targeting, tailoring and equity because the amount of money available to a region depends on its measured needs. But deficiencies in the institutional arrangements governing policy design remain. Even decentralised decisions may lead to over-investment in areas that benefit relatively few, such as large irrigation projects, at the expense of investments that offer greater but more dispersed benefits, such as investments in roads or schools. Priorities and responsibilities among Ministries and across levels of government could be more clearly enunciated, co-ordination of policy design and implementation improved, and management, administration and information systems enhanced.
- The performance of **policies addressing the use of natural resources in agriculture** is also beginning to improve, although the goal of sustainable management of these resources remains distant as water is overused in some areas, soil erosion continues, biodiversity is threatened and deforestation persists. Targeting and flexibility have been improved in the case of water, for example, as the CNA and locally organised bodies that focus on a particular water catchment area or river have been given increasing responsibility and authority. Tailoring and

equity, too, are being improved as the “polluter pays” and “user pays” principles are starting to be applied. However, implementation is still in progress, leaving scope for further improvements, and water property rights for agricultural users often remain ill-defined and poorly enforced even in areas where water is used at unsustainable rates.

- The **land tenure** system has been significantly improved since the early 1990s, although problems remain that continue to put a break on structural change and therefore threaten long-term viability of the sector and rural development. The certification process has allowed *ejidatarios* to exercise some degree of ownership over their parcels, thus increasing transparency in land rights. Equity has improved in the sense that claims are more secure and there is some flexibility with respect to land uses, including some potential to rent or trade land or to use land as collateral. This allows *ejidatarios*’ greater access to non-agricultural labour markets. However, progress is constrained by continued disincentives to privatisation of *ejido* land, residual authority and power of the *ejido* structure, the uncertain status of the two-thirds of *ejido* land that remains communal, and Constitutional limits to private ownership of land. These rules hamper privatisation and are preventing much needed farm consolidation and adjustment from occurring.
- Many features of **Target Income** deficiency payments fall short of agreed policy principles, particularly with respect to the role of market signals but also by limiting the scope for innovation. In terms of transparency and equity, Target Income does represent an improvement over the market price support generated by the import barriers in place in the early 1990s as the costs are no longer borne by consumers but instead by taxpayers. They are therefore more easily measured and less regressive. Limits to individual payments may help to mitigate in part the shortcomings of the policy. However, the programme is not well targeted: the poor transfer efficiency of payments based on output means that only a small portion of the benefits is captured by producers. Target Income is not tailored to observed deficiencies in producer income, as the basis of payment is the quantity sold and the payment rate is based on prices. Only a restricted list of crops is covered, and guaranteed prices are set at a national level without respect to regional comparative advantage. Target Income benefits accrue to agents involved in commercial agriculture, and only those producing the crops covered. All these features result in significant distortion of market signals. In addition, the narrow range of crops covered, by excluding many producers, also makes the programme inequitable.
- Policy reforms have not yet been applied in full to **input subsidies**, particularly energy subsidies so that this highly distorting category of policy intervention continues to be important in the overall policy mix. Limits on payments to individuals notwithstanding, subsidies to energy use influence producers in their production choices and induce more energy use by the sector, results that cannot be considered desirable from the point of view of good policy practice. Any positive effects of energy subsidies on farm income are small and regressively distributed. For similar reasons, subsidies to expand irrigation systems, whose costs are not recovered by higher fees to water users, significantly reduce efficiency and sustainable resource management.

In conclusion, the overall direction of Mexico’s policy reforms from 1990 to 2006 is to be commended. The programmes initiated as part of the reform tend to conform well to the OECD Ministers’ shared policy principles and clearly perform better than the regime

in place before reforms began. The reform process is not yet complete, however, and some recent policy initiatives diverge from these principles. Further policy improvements are possible and desirable.

Achievements of the reforms

Mexico's agricultural policy reform since 1990 has helped the country to achieve lower rural poverty, lower costs of food consumers and higher quality products, greater benefits to subsistence producers and more flexibility for commercial producers, but not all policies work in this direction, and others could be improved. Land reform has enabled greater participation of *ejidatarios* in the wider economy, but achievements here remain limited. The delays in actually implementing "polluter pays" and "user pays" principles have likewise postponed the benefits these principles could bring; resource depletion remains a problem. While the importance of agricultural policy is recognised here, agricultural policy alone does not determine all these outcomes. Other factors, such as wider economic growth and policies in other sectors, may play a more important role.

Mexico's agricultural policy reforms have probably helped to lower **rural poverty**, which is lower than in the early 1990s in relative terms. Moreover, the rate of poverty has fallen more quickly in rural areas than in urban areas. Reforms in agricultural policy have also reduced the urban bias of pre-reform policies. Some elements of *Alianza* are less regressive than most other agricultural policies and, more importantly, PROCAMPO's benefits are shared by the poorest farmers. The reduction and even elimination of tariffs associated with multilateral and bilateral agreements has reduced food costs to consumers which, along with the elimination of guaranteed prices that once prevailed in rural areas, allow the rural poor to buy food more cheaply – even without considering the contribution of anti-poverty programmes that are not part of agricultural policy, such as PROGRESA/*Oportunidades*. The reforms to the land tenure system have allowed more *ejidatarios* to participate in labour markets, facilitating higher and more diversified incomes from wages that have now replaced agricultural income as the largest source of rural income overall.

The effects of agricultural policy reform on **subsistence farmers** have been positive, often for the same reasons that these policy changes have helped to lower poverty. Subsistence farmers have clearly benefited from the re-orientation of support away from market price support which affects the revenues of only those producers who sell their goods, to PROCAMPO payments based on planted area irrespective of sales. They have also benefited from the later amendment to increase the smallest PROCAMPO payments to a farmer up to a minimum amount even if the actual land holding is less. Moreover, ending market price support lowered food prices in rural areas to the benefit of subsistence farmers who, as a group, are net food buyers. The introduction of PROGRESA/*Oportunidades* represents one of several steps to remove the pre-reform urban bias, so that subsistence farmers are more likely to have access to poverty alleviation programmes. Land tenure reform has allowed subsistence farmers in *ejidos* a formal process for renting or even selling land, and thus permitted more of them to seize opportunities for wage employment, often outside of the agricultural sector. However, neither Target Income nor input subsidies bring much benefit to subsistence farmers; also, both forms of support tend to be regressive.

The net effect of agricultural policy reform on **commercial farmers** is more difficult to assess. Whereas subsistence farmers who tend to be net food buyers benefited from the

elimination of market price support, commercial farmers of protected goods did receive higher revenues in the pre-reform period. This widely observed result must be assessed carefully: whatever the effect of market price support on commercial farmers' revenue may have been, the effect on net income was much smaller as much of the transfer associated with market price support in any case slips out of their hands in the form of higher costs. In addition, transitory PROCAMPO payments linked to land, with benefits transferred more directly to farmers, were also part of the reform. At the same time, payments based on output were re-introduced in the form of the Target Income programme, although with effects on net income no better than for market price support. Moreover, like market price support, these subsidies are associated with only a limited range of traditional crops, thus discouraging innovations that might favour Mexico's comparative advantage, such as planting tropical crops, fruits and vegetables. The subsidies to inputs also continued. Over the course of the reform period, transfer efficiency — the share of every dollar spent that shows up in farmers' net income — rose, implying that more of the support, whether from taxpayer or consumer, reached farmers.

Agricultural policy reforms have benefited **consumers** overall. Increased integration with world markets through the reduction or elimination of barriers to imports, allowed Mexican consumers to buy foods at lower prices. Moreover, while subsidies to consumers provided by means of agricultural policies have largely been phased out, the introduction of better targeted subsidies such as PROGRESA/*Oportunidades* have permitted the poorest consumers to continue to receive support. The reforms have benefited poor rural food consumers most, a group missed by the earlier consumer subsidies and penalised by price guarantees in rural areas. Consumers have also benefited from the greater emphasis placed on food safety and food quality, as voluntary standards at the federal level have provided the opportunity for foreign and domestic consumers of Mexico's agricultural output to choose to buy better quality products.

Land tenure reform has relaxed the constraints on **land use**, but serious limits and disincentives continue to restrict the evolution of a private land market. The certification process achieved important adjustments: certification established property rights on the basis of claims, often conflicting, to community-held areas; the link between PROCAMPO and area was used effectively as a lever to encourage certification; certified land may be rented and sold within the community; and land can be privatised completely under certain conditions. These achievements, however important, represent only a partial step towards liberalisation of land as there remain substantial procedural barriers and disincentives to an individual seeking to privatise land. The most obvious procedural barriers are the requirement that two-thirds of community members support privatisation, even of an individual's certified plots, and the uncertainty surrounding the area that is still communally held, and which accounts for two-thirds of total *ejido* property. Apart from outright obstacles, some policies also generate disincentives as exiting the *ejido* cuts access to a variety of programmes and exposes the individual to greater tax liabilities. In the absence of any social safety net policies, this represents significant costs for those seeking to privatise. Thus, the achievement of land reform falls short of full privatisation.

The over-exploitation of **natural resources** has been reduced, although overall the net effect of the policies in place is still to exacerbate depletion of these resources and pollution of the environment. The improvement in policy targeting, particularly the replacement of market price support with PROCAMPO during the NAFTA transition period, reduces the negative unintended consequences of agricultural policies. By de-linking support from current production, there is less incentive for producers to increase production and, as a consequence, they are less inclined to over-draw scarce water, to

apply polluting chemicals or to cut further into forests. At the same time, these benefits are offset by policies that encourage further production in much the same manner as the market price support associated with the trade barriers of old. These include Target Income, and subsidies to energy which clearly encourage greater use of irrigated water by reducing electricity costs. Subsidies to infrastructure mostly take the form of irrigation projects which also facilitate increased water use, but may not improve efficiency. While the achievements of agricultural policy reform in this area have been to reduce the harmful environmental consequences through the re-orientation of policy, there are only a few, small programmes that actively promote better resource management. As in the case of poverty alleviation, however, another achievement of the reforms has been the recognition that non-agricultural policies address better many of the effects of the sector on the environment. The gradual implementation of “polluter pays” and “user pays” principles by means of new bodies, such as the CNA and regional bodies governing water use, and the collection of data – albeit slowly – with which to judge the state of environmental resources are important achievements, even if not the result of agricultural policy.

These achievements validate the difficult decisions that were made to initiate the reforms and the associated period of transition and uncertainty. In any case, the pre-reform policies were unsustainable in a fiscal sense as noted in Part I. The changes that have been implemented constitute a distinct move away from the old ineffective and inefficient policy set, towards the shared policy goals and principles of the OECD ministers. A more demanding test of Mexico’s reforms is to ask how much further Mexico needs to go in the reform process in order to achieve the ideal implied by those shared policy goals and principles.

Priorities for the agricultural sector

Any recommendation for further adjustments in Mexico’s agricultural policy should be framed by a vision of Mexico’s agricultural sector in the future. Specific recommendations can then be tailored to the achievement of the objectives expressed for the sector. In line with the OECD Ministerial principles, the agricultural sector of Mexico should:

- contribute to overall economic growth;
- develop beyond subsistence, while leaving room for profitable small-holders and for part-time workers in the sector;
- be the equal of other sectors in its ability to attract workers and investors, and other resources, without dependency on government subsidies;
- reflect the societal benefits and costs of impacts on the environment in the decisions of its agents; and
- respond to consumer demand, domestic or foreign.

This vision is of an agricultural sector that is no longer the only recourse for unskilled labour in the absence of a social safety net; no longer a low-technology, low-wage industry; no longer dependent on subsidies from taxpayers and consumers; no longer permitted to over-exploit and deplete natural resources; and no longer the exclusive provider of — and exclusively a provider of — staple crops for domestic use.

Many of the changes needed to bring about this change in the role and structure of the agricultural sector do not come within the remit of agricultural policy. It is not the goal of this study to identify the causes of economic development. Yet some general lessons from OECD work point to contributions that may be made by non-agricultural policies. Macroeconomic policy is critical: the negative effects of the currency crisis in the middle 1990s show the vulnerability of the poor, whereas the growing role of non-agricultural activities in rural income shows the potential for broader economic growth to alleviate poverty. The need to improve education and natural resource use extends throughout the economy, and requires nation-wide action. Agricultural policies to address limits in rural finance and high energy prices are attempts to fix the consequences of deficiencies in other sectors, likely an inconsistency of effects brought about by poorly targeted and ill-tailored policies. Agricultural policy is not the best instrument to address widespread poverty concerns. Social policy is much better suited to this purpose. Considering a sector specific response would only be appropriate if society-wide income support systems are inadequate and the prevalence of poverty is directly linked to farming. Improvements in institutions and governance that could offset the negative effects of the six-year political cycle by providing for greater continuity in the public service might be best addressed directly, not by re-designing programme implementation to generate transparency and long-term support.

The agricultural policy regime that will bring about the vision defined here is one that recognises the potential for private markets to work, while finding the correct points of insertion for subsidies and taxes that will align private and societal benefits and costs. Economy-wide effects would be positive: market allocation favours improved resource use relative to demand, domestic and foreign, raises value-added and, thus, GDP. Agricultural policies that attempt to increase producer income or to improve growth in the sector using subsidies on output and inputs of a crop based on its historical role as a staple food, could have the opposite result. Such policies can penalise long-term development and delay the eventual achievement of this vision for Mexico's agriculture by failing to exploit, or even undermining, its own comparative advantage. Conversely, agricultural policies will help to achieve this vision if they work to improve the operation of the market, or to increase access to human and financial capital, or if they are directly targeted to societal benefits and costs not normally reflected in price signals.

This vision of agriculture depends critically on further evolution of the entire policy regime and economy of Mexico. As such, realistic recommendations for further policy reform must reflect the context; agricultural policy may offer an alternative for meeting important objectives that would otherwise be left unaddressed. Nevertheless, based on the achievements to date and taking into account the broader context, Mexico is well placed to make further reforms in agricultural policies in the direction of the vision given above.

Actions for further reform

The existing array of policies can be amended further to consolidate and strengthen what has already been achieved by the reforms undertaken to date, and to optimise the role of the government in the realisation of the long-term vision for the sector.

Immediate improvement in agricultural policy would result from reform to **Target Income**, the deficiency payment scheme, which could be re-instrumented or replaced. The programme has very low transfer efficiency, so most of the benefits do not go to producers, and the effects on net farm income are much smaller than the cost to

taxpayers. Moreover, the benefits are tied to output and, although there are some limits on individual payments, the effect is to encourage excess production of the eligible crops, distorting resource allocation. Incentives to expand production indirectly encourage natural resource use, even in areas where these resources are already strained. As Target Income is linked to commercial sales, it does not reach subsistence farmers, and the programme is not progressive. A better mechanism should be found. The first steps in this process would be to define better the objectives of the programme, and then to target explicitly those objectives. For example, a better way to handle income risk would be to link payments to income in the form of a net income insurance scheme, which would recognise that both prices and yields determine crop revenues, and that input cost variability can also play a part. Moreover, such an insurance scheme could be linked to total agricultural net income, rather than prices of a few crops, so there would no longer be a bias in the programme towards the limited list of eligible crops. Of course, such a programme would still focus on agricultural income when, in fact, the real concern is probably overall income, including labour income from non-agricultural activities, implying that the long-run solution to income risk lies in a more general social safety net.

Despite the reductions in tariffs following multilateral negotiations and the gradual elimination of certain bilateral tariffs, Mexico continues to protect producers by means of market price support – barriers to trade that raise domestic prices relative to border prices. Market price support shares all the failings of the deficiency payment system described above. In addition, however, the cost of market price support is borne by consumers, including poorer people who spend a higher proportion of their income on food; market price support is therefore regressive. **Market price support** should be progressively eliminated.

The stated purpose of **energy subsidies** is to offset the higher cost of Mexico's energy regime, particularly the costs imposed by the state-endorsed monopoly. Regardless of their justification, energy subsidies to producers encourage excessive use of natural resources, particularly water, and distort production practices in favour of those activities that receive greater subsidies. If a secondary objective is to raise producer net income, then the very low transfer efficiency of this type of input support – the small effect on farmer net income – must be taken into account. The objective of the programme should be defined clearly and addressed: the best solution may lie in a reform of the energy regime.

PROCAMPO was intended to facilitate the transition period of NAFTA, which ends in 2008. PROCAMPO has widespread support likely due to the great improvement in transfer efficiency that it has brought about, the coverage of both subsistence and commercial land-owning farmers, and the reduced pressure on the environment resulting from the programme. As the transition period ends, the objectives to be met must be defined in the light of what has already been achieved and in light of developments in the agricultural sector and the economy more widely. If income support is the objective, then the payment should be linked to income, not land, and available regardless of the potential recipients' agricultural activities. The "income" objective to be tackled must be carefully defined: a programme that aims to alleviate poverty would be quite different from one that aims to smooth income variability. If encouraging environmentally sustainable practices is the objective, then the payment should reward producers for adopting such practices, retaining forests and soil for example, and complement the application of the "polluter pays" and "user pays" principles. Payments could be contingent on whether or not producers report their water use. The payment could be used to reward the planting of varieties that protect a certain level of biodiversity, or the idling

of marginal land that is vulnerable to soil erosion. If the objective of future support is to facilitate the privatisation of land, as discussed below, then it must cease to be an area payment as soon as possible. As 2008 approaches, the precise nature of the desired objective should be explicitly stated so that programmes can be carefully targeted and tailored.

The **institutional structure** within which policy formulation takes place is an essential element in good policy design and implementation. A clearly stated development strategy, supported by well articulated, adequately resourced and appropriately targeted policies, would do much to improve the productive capacity of the sector. It is important that an appropriate balance be found between responding to unexpected developments in the sector and providing a stable environment in which businesses can plan and invest. In many OECD countries, framework legislation covering a multi-year period attempts to achieve such a balance, and this approach might usefully be considered, adapted of course for the specific circumstances in Mexico. Governments should also resist the temptation to replace appointed officials in the context of the political cycle, so as to build an independent and professional civil service to advise upon and to implement its priorities. A simple and useful step forward would be to put in place routine and long-lasting policy planning processes, with the obvious first choices relating to data collection and analysis. Data collection should be institutionalised; for example, a regular agricultural census is needed so that the sector can be better understood and decision-making improved. This would be preferable to current practice which depends on various other sources, which are often *ad hoc* and partial.

Care should be taken that programmes that are put in place in **response to market failures** of different types do not crowd out needed private development. In particular, direct or indirect public provision of financial services or cost-sharing on producers' hedging strategies should be transitory mechanisms to alleviate existing deficiencies, but should not compete with or crowd out private firms. Staged withdrawal from some of these activities could be built into programmes, allowing private provision to take over as and when defined benchmarks are reached. For example, programmes that are intended to overcome deficiencies in private services could be set on a declining budget, with safeguards in place to return to a previous level in the event that public services were not eventually replaced by private services. Alternatively, such programmes could be restricted to only those regions where market failures are clearly evident. The absence of an active private sector does not indicate that the private sector could not carry out the functions currently undertaken by the government, as it may simply be the case that the activities of public agencies have eliminated the scope for profitable private sector involvement.

Implementation of the **“polluter pays” and “user pays” principles** to agriculture involve actors outside the agricultural sector, such as local associations that are formed to manage water in a particular locality. Nevertheless, there is scope for contributions from agricultural policy. Agricultural policy, instead of subsidising further extensions to the irrigation network, might contribute better to overall societal needs by, for example, encouraging creation of and participation in water user associations, and distributing water meters to farmers exploiting private wells. More programmes could educate, train and disseminate information to Mexican farmers on sustainable farm management practices that are beneficial both from an economic and environment perspective. Communal land ownership could be ended to help align private and public incentives for that land. Re-orienting existing policies to end subsidies that encourage production would represent a substantial contribution to environmental sustainability. Where agriculture

generates positive or negative environmental effects, then subsidies and taxes might be introduced so that private decisions take societal needs into account. If possible, systems that reward the provision of environmental services with direct payments and grants for environmentally-beneficial investments, or charges and regulations in the event of negative effects, should be considered rather than linking the payment to an agricultural production activity. For example, the ecological services provided by forests, such as soil and water conservation, might be rewarded with public support, while unsustainable forest management would be penalised. Another mechanism is to impose cross-compliance requirements by demanding that producers who receive benefits of a programme engage in environmentally sustainable activities. Examples of cross-compliance exist, as some programmes do require that producers obey certain restrictions or adopt methods that are intended to improve the quality of land, but programmes with cross-compliance requirements account for a very small share of total expenditure.

The allocation of **property rights for water** must be clarified, completed, and enforced. The current practices of granting concessions in areas where the level of sustainable water use is not yet estimated is too permissive. In any case these concessions seem to be exceeded frequently. The status of water supplies must be established, requiring scientific surveys of aquifers and water catchment areas to determine their capacities and also the drawdown on these supplies already in progress. Concessions must evolve into property rights that are enforced. Once established, owners of concessions should be permitted to rent or sell their property rights, so water can be distributed more efficiently now and be re-distributed by market processes in the future as needs change in different areas and sectors of the economy. Agricultural policy is not the primary mechanism to clarify property rights for water, but there is scope for agricultural policy to play a supportive role. As noted, continued agricultural policy reforms help by reducing incentives to increase production and draw more water in areas where extraction already exceeds the sustainable rate, and may also help by imposing cross compliance requirements: access to agricultural programmes – and certainly to any support for irrigation – could be contingent on a producer respecting limits imposed by water property rights.

Constraining **migration** from rural areas is an objective that seems to underlay many agricultural policies. This reflects a widely held perception that migration from rural areas to urban areas within Mexico, which is more common than migration abroad, is bad for the rural areas themselves, for over-crowded urban areas and for society as a whole. However, as the net effects of migration are quite complicated, the premise on which this objective is formulated should be subject to more critical assessment. Migration from rural to urban areas might be seen as a sign that economic processes to distribute the gains of growth are at work, as labourers opt to move to areas where real wages are higher. It would be damaging to long-run economic growth to prevent workers from responding, even more so if other policies tie them to small plots of land that can only provide a subsistence standard of living. If one reason to limit migration is to minimise taxpayer costs, then the costs of providing public services must be assessed by comparing the costs of providing public services in urban areas to the costs of providing the same level of services in rural areas. If the result of such an assessment is that costs of public services per inhabitant in rural areas is less than in urban areas, this may be an indication that there is scope to expand the provision of services in rural areas. Conversely, if the opposite result is found, then this objective of agricultural policy should be reviewed.

Further **land tenure** reform will be crucial in the achievement of the goals that have been outlined for the sector. Small and often scattered plots of land suffice for subsistence

farming, but are no basis for a viable economic activity. Small plots will not attract investment: banks cannot cover loan-related costs, individual land-holders cannot reap enough additional rewards to justify investment in machinery, technology or human capital. Tying millions of people to small and scattered communities in rural areas makes it extremely difficult for them to access public services, such as education and health, or to increase their incomes. On the contrary, recent improvements in living standards in rural areas appear to be associated with growing wage income from non-agricultural activities.

Land privatisation is therefore an urgent need. The current rules governing private land holdings should be relaxed, communal land in *ejidos* that has escaped certification must be assigned and all *ejido* land should be converted into a tradable and rentable asset. The continued prevalence of communally held land generates the “problem of the commons” – overuse and uncertain distribution of benefits. This should be ended by defining property rights clearly. Whereas the most recent agrarian reform gave to the many *ejidatarios* land which was once concentrated in the hands of the very few, by disallowing land trading it prevented them not only from getting the full benefit possible from this asset, but also from rationalising land distribution and use. *Ejidatarios* would benefit from the development of a land market by having options to rent or sell land to people not in the *ejido*, with the greater number of potential buyers likely leading to rising prices that would compensate the *ejidatarios* who choose not to own land. They would have the option not to sell, as well. Further reforms to land tenure are controversial; the process must be carefully considered. So, too, must the overlapping effects of various policies. For example, continuing land-based payments as land is privatised would lead the expected payments to be capitalised in land prices, with the dubious long-term effects of creating an asset – a perceived right to subsidisation – that, experience shows, leads to protracted intervention in the sector and costly compensation packages. At the same time, however, converting the existing land based payment into a one-time grant or a bond with an associated payment stream that is granted to current land owners, but not contingent on their keeping the land, might facilitate land privatisation by infusing some financial capacity into rural areas.

Agricultural policies could support investment in a variety of **general services that would support a productive agriculture and food system**, such as the physical infrastructure of the sector; plant, animal and human health systems; inspection and certification services; agricultural schools, training and extension services; research, development and technology transfer; the provision of environmental services and control of environmental degradation, when not addressed by broader policies; and perhaps insurance against unavoidable risks not covered privately or by other policies. Whereas historical spending on infrastructure has focused on irrigation, this support could be re-oriented towards infrastructure necessary for trading agricultural goods, and perhaps allowing markets for water to develop, as well. Spending on information and communication technology, inspection services that ensure the quality of the product, and the human capital of the sector would have a place, if carefully defined not to displace private initiatives. Very practical measures are possible. For example, a technician might be provided in areas that are characterised by high rates of illiteracy – a practice that is used to improve many technology programmes of *Alianza* now. Nationally recognised inspection services help support the development of national markets, and also serve most the poor who are otherwise more vulnerable to low quality or unsafe foods. Programmes to address systemic risks could be used to provide insurance to producers, perhaps based on their net income. Likewise, consequences of agricultural activities for the environment

that are not recognised in broader environmental policy could be addressed by taxes and subsidies that align private incentives and societal needs. Agricultural policy should also help to establish and enforce property rights.

Agricultural policy reforms must not be considered in isolation. The subsistence farming that characterises many rural communities provides a safety net that, in the event of misfortune, limits human suffering. Likewise, inherent in the land tenure regime, including limits on private ownership of land, is the objective of a more equitable distribution of wealth. These objectives may be better met by other mechanisms. An economy-wide safety net is subject to less risk, does not limit opportunities in the way that subsistence farming does and also extends to all people. Similarly, a progressive tax to address wealth, or income, distribution directly would be more effective. The time path of evolution towards these policies is not clear, nor is it a matter of agricultural policy; progress towards an improved regime of agricultural policy should be made in parallel with progress made in other sectors, and in macroeconomic policy more broadly. Thus, while clearly the best policy initiative to address the absence of a social safety net is to construct such a programme and the best programme to address income distribution is a progressive programme based on all income, it may be within the scope of agricultural policy to achieve second-best solutions until these better alternatives are designed and implemented more broadly.

Government has an important role to play in the long-run, even after economy-wide reform is complete and an economically and environmentally viable, competitive agricultural sector is achieved. A functioning market requires that property rights are established and enforced. Even with a well functioning market, the provision of public goods will still require government intervention. Natural resources provide public benefits while at the same time the effects of many activities on those resources are reflected in price signals only if property rights and policies have been carefully constructed. Information services are needed to facilitate public and private decision-making. Government activity in the area of inspection services is a public good that protects the health and well-being of all, but especially of the poorest who may otherwise be vulnerable to unscrupulous providers of unsafe goods. Public subsidies, too, may have a part; the success of *PROGRESA/Oportunidades* has demonstrated the potential for carefully crafted subsidies that help simultaneously alleviate poverty and meet long-run objectives of equity in development.

The actions recommended here represent steps toward an agricultural sector that is healthy, independent, sustainable and productive. These actions are continuations along the path towards liberalisation along which Mexico has already made great strides since the early 1990s. To date, these steps have resulted in some reductions in rural poverty, less damage to the environment and lower societal costs for raising producer welfare, as well as some improvements in financial markets and inspection services. It remains for Mexico to define the kind of agricultural sector it would like to have in the future, to translate that vision into specific objectives and to act to put in place the agricultural policies needed to achieve them.

NOTE

1. See box in Introduction to Part II for the relevant passages of the OECD Council at Ministerial Level, April 1998. In summary, the shared goals are an agricultural sector that is characterised as responsive to market signals; efficient, sustainable and innovative; integrated with multilateral trade; provides adequate and reliable food that is safe; consistent with good environmental resource management; contributes to rural development; and contributes to global and national food security. The operational criteria for policies instruments put in place in pursuit of the shared goals are that they should be transparent, targeted, tailored, flexible and equitable.

Annex II.A. Exchange Rate Table

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Mexican exchange rate	MXN/USD	2.841	3.022	3.095	3.115	3.389	6.421	7.601	7.924	9.153	9.453	9.344	9.660	10.790	11.281	10.896

Annex II.B. Detailed Programme Information

(as relevant to Chapter 3)

Annex Table II.B1. Concurrent Expenditure for Rural Development (PEC)

	2000	2001	2002	2003	2004	2005	Annual grow rate
	billions of real (2005) pesos						
I. Productive programs	37.7	40.7	43.4	44.6	43.0	45.0	3.1%
PROCAMPO	14.6	16.2	15.0	15.9	15.1	14.9	-0.2%
Marketing payments	4.5	4.5	6.8	6.1	5.4	6.5	6.6%
Alianza para el Campo	1.5	2.6	2.8	3.6	4.4	4.5	22.7%
Hydraulic infrastructure	3.1	2.8	2.5	4.1	3.7	4.7	10.5%
PROCEDE	1.3	0.7	0.4	0.6	0.2	0.8	-16.1%
Forestry	0.2	0.2	1.0	1.1	1.1	1.1	50.2%
SAGARPA	9.7	10.6	11.9	10.2	10.1	9.6	-1.1%
Agrarian sector	2.7	3.0	3.1	3.0	2.9	2.9	0.6%
II. Income programs	13.7	15.6	16.5	13.2	14.3	13.3	-1.8%
Agriculture Education ramo 11	3.7	4.4	3.8	3.8	3.9	3.7	-0.9%
STPS Probocat	1.0	1.1	0.8	1.0	0.9	0.1	-34.2%
Program for temporal Work	5.5	5.4	4.9	2.0	2.0	1.5	-25.5%
Conaza	0.1	0.2	0.2	0.1	0.1	0.0	-22.4%
Forestry Development	0.2	0.2	0.3	0.3	0.4	0.4	17.1%
INI	1.0	1.3	1.3	2.7	3.1	3.7	32.2%
Rural Development Programs	2.1	3.1	5.1	3.4	3.7	3.7	8.7%
Rural Aquaculture	0.0	0.0	0.0	0.0	0.2	0.1	81.3%
III. Capital programs	7.8	8.1	7.1	6.2	8.1	7.0	-2.0%
Hydraulic infrastructure in marginal areas	0.3	0.7	0.3	0.1	0.2	0.2	-22.4%
Funds for micro, small and medium enterprises	1.2	1.1	1.1	0.7	0.9	0.9	-6.9%
Fund for Municipality Infrastructure	3.2	3.9	3.9	3.8	4.1	4.4	4.8%
Phones on rural roads	1.6	1.1	0.9	1.2	2.1	1.0	-0.8%
Program of potable water in marginal areas	1.0	0.8	0.3	0.1	0.3	0.0	-49.3%
National reforestation program	0.4	0.5	0.6	0.4	0.5	0.5	1.7%
IV. Rural poverty programs	22.0	33.1	31.0	35.6	32.3	40.0	9.1%
Social infrastructure	6.0	7.2	7.3	7.0	7.6	7.8	4.2%
Micro regions	0.0	0.0	0.4	0.5	0.5	0.4	
Food Program	2.8	3.3	4.1	8.6	4.8	4.8	13.8%
PROGRESA / OPORTUNIDADES	13.2	22.6	19.2	19.5	19.5	27.0	9.4%
V. Other programs	16.6	14.9	20.7	31.7	28.4	38.6	20.7%
Total expenditure for rural development	97.9	112.5	118.7	131.4	126.2	143.9	7.0%

The implicit price index of GDP is used; food programmes includes school breakfasts, rural supplies, social milk supply programmes, etc.
Source: Data from the Budget of the *Programa Especial Concurrente*.

Annex Table II.B2. Agricultural marketing support
(Million pesos)

Concept	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Direct Marketing Support (Target Income) ^{1/}	108.5	1 446.5	1 568.5	1 940.8	806.6	555.4	2 068.1	1 930.6	1 573.6	1 784.2	3 796.7	3 358.9	3 072.1	2 125.3	4 260.0
Rice	17.6	0.0	0.0	0.0	28.2	18.8	25.5	50.9	42.2	69.1	126.8	92.0	16.9	72.1	91.5
Wheat ^{2/}	1.2	1 186.2	1 320.0	1 713.6	541.6	17.5	707.3	844.6	831.1	766.5	951.1	1 219.0	910.1	64.3	458.7
Sorghum	19.0	117.9	101.2	25.9	3.2	358.4	366.8	264.7	200.9	123.4	700.7	299.3	543.9	37.0	543.4
Maize						64.1	935.7	770.5	368.1	825.2	2 018.2	1 404.3	1 069.8	1 336.8	2 196.4
Soybean	70.6	104.7	106.3	174.5	29.2						50.5			4.3	76.0
Safflower					6.5						54.9	44.4	182.0	228.8	175.6
Cotton		37.7	40.0	26.8	129.9	32.0			131.3		257.9	206.6	3.2	381.5	713.4
Peanut											4.0				
Barley											1.0	4.3		0.2	
Canola											1.1		0.1	0.4	4.9
Copra											15.0				
Triticale													1.0	0.0	
Bean			1.0		68.0	64.6	32.8				511.2	89.0	198.1		
Other support ^{3/}													146.9		
Direct support for surplus withdrawal													75.0	22.2	69.5
Direct support to conversion											12.8	100.1	148.3	208.7	2.5
Support for price hedging						55.3	61.2	54.9	61.8	77.7	101.6	435.2	498.0	557.5	496.8
Support for use of TIF slaughterhouses^{4/}														366.4	173.3
Special programme of maize support													79.7	78.0	68.1
Other support schemes^{5/}										1 144.3	428.4	546.0	1 459.3	2 353.7	1 432.1
TOTAL^{6/}	108.5	1 446.5	1 568.5	1 940.8	806.6	610.8	2 129.3	1 985.5	1 635.4	3 006.3	5 235.2	4 440.2	5 698.9	5 549.4	6 502.2
TOTAL 2005 pesos	635.3	7 404.4	7 290.2	8 329.3	2 527.8	1 470.8	4 377.1	3 500.9	2 502.0	4 137.6	6 811.9	5 350.6	6 393.3	5 815.7	6 502.2

See notes on following page

Notes to Annex Table II.B2. Agricultural marketing support

1. From 1991 to 1994, Consumption Support (wheat for bread) and Marketing (wheat, sorghum, soybean, cotton and rice) are included; from 1995 to 1997, Marketing Support payments for fiscal years 1998 to 2001 are included, the expenditure relates to support given to: rice, wheat, sorghum and maize (only to cotton in 1999); in the fiscal year 2002 the expenditure is related to Direct support to basic grain and oilseeds; in the fiscal year 2003, the expenditure is related to Direct Marketing Support; in the fiscal years 2004 and 2005 the expenditure relates to Direct Support to Target Income.
2. In 1996 support to wheat ceased. Payments made that year were based on 1995 applications.
3. Support given to fertilizers (1995) and pork producers (1996 and 1997) are included.
4. From 2005, support has been given through SENASICA.
5. For the fiscal years 2000 and 2001, the expenditure is called Other Regional Markets Development (in 2001, the products not included in Direct Support, such as cotton, peanuts, safflower, canola, barley, copra, soybean, beans and Other Support Schemes are added; here we present the difference of the subprogrammes not specified in the table); for the fiscal year 2002, the expenditure is related to Complementary Support and for the fiscal years 2003, 2004 and 2005 the expenditure relates to Other Support Schemes.
6. The data cannot coincide with other sources. The real total amount of Marketing Support can differ from the Informe de Gobierno of 1996-2000 period because this source did not include the Support for the Acquisition of Coverage.

Source: General Directorate of Marketing Policy - ASERCA; Informes de Gobierno 2001, 2005 and 2006.

Annex Table II.B3. Main modifications to PROCAMPO, 1993-2006

Year	Objective	Support Characteristic
1993-1994	Creation of the Direct Support to the Countryside Programme (PROCAMPO), direct payment programme for the transfer of federal government funds to support rural producers. The programme was implemented as of the autumn-winter 1993-1994 season. The programme was established for 15 years.	Consists of a single payment to producers by hectare or fraction of a hectare for the season for which eligibility has been verified. The eligibility criteria are based on crops (maize, bean, wheat, rice, sorghum, soybean, cotton, safflower and barley) sown in the three agricultural seasons prior to August 1993.
1995-1996	Conversion of production methods to those based on ecological principles.	Up to the 1994-1995 autumn season, planting was required for all crops that served as the basis to qualify for PROCAMPO payments. As of spring-summer 1995, farmers can plant any crop that is legal. As of the autumn-winter 1995-1996 season, producers participating in ecological conservation projects are eligible for PROCAMPO payments.
2001	Preferential treatment to producers with the lowest income.	Producers with less than five hectares of rain fed lands receive payment in advance of planting for the spring/summer season. Those properties with a surface smaller than one hectare receive payment corresponding to a complete hectare.
2001	Implementation of advance payments (Capitalised PROCAMPO) — financial institutions were allowed to make advance payments to producers equal to the net present value of future entitlements	Producers will develop a project, for which an investment plan has been proposed on a short or medium term basis, which is technically viable and financially profitable, and which is directly related to primary production, processing, the supply of inputs and equipment, or to other economic activities tied to the agricultural, forestry and fishing productive activities.
2003	Preferential treatment to producers at lower income levels.	Producers with less than five hectares of rain fed land receive a preferential payment for the spring-summer season.

Source: PROCAMPO information @ www.procampo.gob.mx.

Annex Table II.B4. Main programmes of *Alianza Contigo*

Programme name	Objective	Target population
I. Agricultural development		
	To increase production, productivity and agricultural competitiveness through research and technology transfers, resource sustainability and the consolidation of product-systems, capitalization and diversification of productive units, development of professional skills and focussing on critical factors, in order to increase producers income and achieve food security.	
	Subprogrammes	
Investment promotion and capitalization	To stimulate investment and capitalisation in the agricultural sector and its capitalization by supporting for the acquisition of capital goods and improving infrastructure.	Communities, organizations or associations at national, state, regional, district, or municipal level or producer grouped in rural areas.
Strengthening of product systems	To promote integration and competitiveness of Product-Systems (productive chain) by means of additional support to producers, to strengthen the organisation of production and to improve planning, communication and coordination among the different links of the chain.	
Research and technology transfer	Meet the needs of the agro-food and fisheries chains by supporting the creation of technology, validation, transfer and adoption.	
II. Livestock development		
	Support livestock producers through investment in construction and infrastructure rehabilitation, acquisition and modernisation of equipment, adoption of new technologies in primary production units, and with respect to food, genetic and sanitary, as well as investment in industrial projects.	
Livestock development	Increase fodder availability, improve productive efficiency of the production units through capitalization and infrastructure investment, machinery and genetic improvement.	Ejido, communal, small holders, producer groups involved in livestock
Development of integrated livestock projects	Support and promote livestock development by contracting development coordinators and promoters, through projects to create producer groups and to favouring integration in the livestock chains.	
III. Rural development		
	To strengthen the creation of employment and income for people in rural areas	
	To orient rural development policies, strategies and instruments towards the capitalization on family production units.	
	To promote sustainable management of natural resources in projects to develop primary production.	
	Incorporate transformation and valued-added processes.	
	Subprogrammes	
Support to rural investment programme (<i>papir</i>)	Support, through investment incentives, the creation of productive projects for the integration of the rural population and the creation of micro companies.	
	Stimulate investment by the lowest income segment of the rural population.	
Capacity development in the rural sector (<i>prodesca</i>)	Promote the use of technical, commercial, organizational, management and financial knowledge, among production units and rural organizations, through training, education and micro financing.	Low income producers in marginal, area and in transition.
	Establish mechanisms to encourage the development of professional services.	
Strengthen rural companies and organizations (<i>profemor</i>)	Promote the creation, conversion and organizational integration of rural producers.	
	Support the consolidation of the structure and administration of the Rural Sustainable Development Councils.	

Annex Table II.B4. Main programmes of *Alianza Contigo* (continued)

IV. Food health and safety	To strengthen the control and eradication of pests and/or agricultural, livestock and aquaculture diseases. Preserve and protect sanitary status. Promote and develop national food safety programmes. Certify the health, safety and general quality of food and aquaculture products.	
	Subprogrammes	
	Animal health	At state and regional level, monitoring of the animal health situation in the context of disease eradication campaigns, bio security, animal health diagnosis laboratories, inspection of slaughterhouses i, checks on animal movements and controls at strategic points of sanitary or phytosanitary cordons Respond to contingencies and compensations
	Plant health	Support the development of national campaigns and plant health prevention campaigns.
Food Safety	Support, training and technical assistance for the implementation of minimal risk methodologies in production, processing and packing units, such as Good Agricultural Livestock and Aquaculture Practices.	Aquaculture and agriculture producers, vulnerable to pests and/or diseases, and those needing a food safety programme
	Stimulate Good Manufacturing Practices and Operational Procedures for Health Standards.	
V. National information system for sustainable rural development (SNIDRUS)	Support the establishment and implementation of the National Information System for Sustainable Rural Development (SNIDRUS), with the collaboration of federal bodies and INEGI, in order to provide timely information to producers and other economic agents involved in production, supporting decision taking and contributing to the integration of fisheries, agricultural and food chains.	Agricultural and fishery producers, state governments, SAGARPA delegations to federal organizations, the Agro-food and Fishing Statistics and Information Service, Rural Development districts, as well as institutions that make up the National Technical Committee for Statistical and Geographical Information for Sustainable Rural Development and State Committees for Statistical and Geographic Information for Sustainable Rural Development
VI. Stabilization fund, Strengthening and reorganising coffee production	Through a target income system, to partially compensate for falls in producers' incomes. Provide support to producers during periods when the international coffee price is below expected levels. Promote actions to stimulate coffee consumption and improve the quality of Mexican coffee	All the coffee producers who are members of the National Coffee Committee

Source: Diario Oficial de la Federación. Tercera sección. Reglas de Operación de la Alianza para el Campo para la Reconversión Productiva; Integración de Cadenas Agroalimentarias y de Pesca; Atención a Factores Críticos y Atención a Grupos y Regiones Prioritarias. Friday, 25 July 2003.

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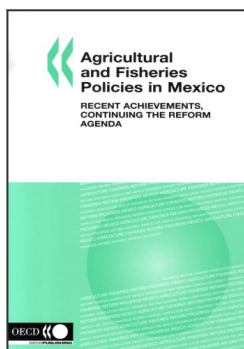
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From:

Agricultural and Fisheries Policies in Mexico

Recent Achievements, Continuing the Reform Agenda

Access the complete publication at:

<https://doi.org/10.1787/9789264030251-en>

Please cite this chapter as:

OECD (2008), "Conclusions and recommendations", in *Agricultural and Fisheries Policies in Mexico: Recent Achievements, Continuing the Reform Agenda*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264030251-10-en>

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