

Towards Agricultural Policy 3.0 – an agenda for agricultural research

Pour une politique agricole 3.0 – un programme de recherche agricole

Richtung Agrarpolitik 3.0 – eine Agenda für landwirtschaftliche Forschung

**point de
vue**
by
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My decision to become an agricultural economist was made around 1990, a phase when the profession was fighting hard to change EU agricultural policy. The market support system established with the Treaty of Rome in 1957 – let's call it 'Agricultural Policy 1.0' – had fizzled out. Huge surpluses of butter and beef, subsidised destruction of valuable produce and reports of food markets in developing countries undermined by subsidised exports from the EU had made it clear that neither production quotas nor price guarantees could be a solution for the primary sector. While citizens could only shake their heads at the absurdities of the market 'support' system, many agricultural economists – some of them my teachers – kept on writing papers in which they demonstrated the advantages of switching from market support to direct payments.

And finally they succeeded! A series of reforms from 1992, starting with the McSharry Reform that introduced direct payments into the CAP and ending with the scrapping of the milk quota in 2015, transformed the system, heralding a new era. Around the turn of the century, Europe adopted an agricultural system in which (at least internal) market forces largely steered the production decisions made by farmers, while the state supported them via supplementary direct payments and by some external tariffs on agricultural commodities. Agricultural Policy 2.0 was born.



Arable production may provide positive externalities.

While decision-makers in the EU disagree about the speed of reform, its direction in this setting seems to be clear. After lifting the last production quotas and banning export subsidies, the final remnants of 'Agricultural Policy 1.0' are slowly dying out. In addition, the conditions according to which farmers receive money are changing. Offering unconditional per-hectare direct payments entails a

large implicit subsidy for the owners of farmland (Isermeyer *et al.*, 2003). Based on that simple mechanism, some transformation towards something like 'Agricultural Policy 2.1' took place. The 'greening' of direct payments describes the fact that the historic justification of direct payments – compensating for the lower prices after market support was abandoned – has been fading. Instead, an increasing number of agri-environmental programmes were designed, entrenching the view that farmers should be reimbursed for the delivery of public goods. For the European Union, the second pillar in which rural development is supported, including agri-environmental programmes, has grown to more than a quarter of the agricultural budget. While rationales other than environmental ones, such as compensation for strict laws, equity issues or risk management may exist for agricultural policy, it

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It is possible to reimburse output-based biodiversity.

has become clear that protecting natural resources including biodiversity and landscapes are becoming key motivators for any public support agriculture is enjoying in developed countries.

But what role do agricultural economists play in determining the future of the CAP and national agricultural policies? Yes, there was a declaration by 80 agricultural economists in 2010, demanding an 'ambitious reform' of the CAP towards societal objectives like biodiversity and away from income policy. Yes, there have been single voices in the literature giving concrete policy advice, such as arguments for supporting a small-structured farming system (Dürr, 2016). But is there anything like a common sense of direction among a majority of agricultural economists? Or have common political objectives been lost amid the technicalities of Bayesian networks and structural equation models?

Maybe they have, and this is all right? Maybe the 'end of history' as proclaimed by Fukuyama (1989), even if not applicable to world history, can be declared for agricultural policy? If the transition from income support (direct payments) to agri-environmental programmes is completed, could that be a new 'steady state' of agricultural policy which will remain as it is?

I have great reservations about this, and will cite two illustrative cases

from my personal field of experience, Swiss agricultural policy. Both are agri-environmental programmes which, at least superficially, seem to be an entirely appropriate reimbursement for the delivery of valuable environmental amenities (public goods).

One programme involves payments for no-tillage. There are different ways of avoiding the plough, and Swiss farmers receive 150 to 250 Swiss Francs (CHF) per hectare if they use some form of no-tillage, payment depending on the proportion of the soil surface being moved for drilling. While this sounds like a fair way of paying for avoiding erosion and saving energy, the programme causes headaches for the officials on the ground. How, they ask, can one check whether a plough has been used? Under most conditions and on most soils, this is simply impossible, unless the controller visits the site at the very time when tillage is underway. An additional issue was the weak scientific evidence of the net positive environmental effect of no-tillage. The only hard fact that a recent evaluation of the programme could identify was a higher use of the herbicide Glyphosate on the no-tillage land if compared to tilled fields.

The lack of controllability would not really be an issue if the 'honesty' of Swiss farmers were sufficient to comply with the standards anyway. A recent analysis of a second programme

(Wunderlich and Mann, 2016) of the 'payments for grassland-based milk and meat production' casts doubt on this assumption. Under this scheme, farmers receive CHF 200 per livestock unit if the diet for ruminants consists of at least 90 per cent roughage. While a majority of cattle farmers subscribe to this programme, an economic analysis has indicated that for 48 per cent of subscribers these payments were windfall gains as they would have met the programme criteria before anyhow i.e. a deadweight loss, and – much worse – that another 46 per cent received payments without fulfilling the criteria.

In both instances, the administration has identified inputs (like no-tillage and roughage feeding) that appeared to be sufficiently linked to non-commodity outputs (like erosion prevention and higher grassland use) to justify public funding. However, they overlooked the factual impossibility of verifying compliance with the relevant programme, even with intensified controls. After two or three decades of agri-environmental programmes on the globe, Uthes and Matzdorf (2013), in their meta-analysis, find little evidence for the intended positive effects of such programmes!

“ Es wird vorgeschlagen, die Arbeit von Agrarwissenschaftlern in Richtung der Suche nach einer stärkeren Verbindung zwischen Umwelteffekten und öffentlicher Förderung zu dirigieren. ”

This points strongly towards the limits and shortcomings of Agricultural Policy 2.1 as we know it. At the same time, advances in technology provide more and more possibilities to reliably trace material flows on and in our farmland. Should we instead consider switching to a policy that rewards useful outputs instead of

inputs – towards an Agricultural Policy 3.0?

It is hard to argue that agri-environmental policy is an under-researched issue. There is a lot of relevant and high-quality literature, and this literature covers important aspects of such policies. In addition to issues of how to target different environmental objectives or how specific to be in designing instruments, the question of linking payments to outputs has been raised both on theoretical and empirical grounds.

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On the practical side, first steps have been taken with encouraging results, as I can confirm based on my experiences with the Swiss case. A programme which started in 2002 reimbursed farmers if at least six different valuable plants (as defined in a list by regional authorities) can be found on the land. Once this programme had been shown to have limited transaction costs for its administration and to generate the intended results (Mann,



Mountain agriculture is rich in non-commodity outputs.

2008), the government extended the use of biodiversity indicators to additional programmes in its new agricultural policy.

The linking of agri-environmental programmes to actual outputs is, however, not a black versus white issue. In the US, for example, farmers receive payments if they use seed mixes to provide better nutrition for honey bees (USDA, 2015). This is not entirely output-related, which would rather be an actual count of bees on the land. However, it can be argued that in such cases the link between measures and outcome, if scientifically tested, is short enough to be justified.

Admittedly, it is easier to reimburse biodiversity (flora more so than fauna) than it is to reimburse low ammonia emissions into the air or low pesticide emissions into the water. We are clearly not ready to switch to such an ‘Agricultural Policy 3.0’ now. However, I believe that this is the direction in which agricultural scientists, including economists, should be heading. While short-term improvements in agri-environmental policies should focus on targeting and verification, a long-term perspective towards output-based indicators and their public good values would lend some more visibility, relevance and attractiveness to our discipline.


Further Reading

- Dürri, J. (2016). The political economy of agriculture for development today: the ‘small versus large’ scale debate revisited. *Agricultural Economics*, 47(6): 671–681.
- Fukuyama, F. (1989). The end of history. *The National Interest*, 16(1): 3–18.
- Isermeyer, F., W. Kleinhanss and M. Bertelsmeier (2003). *Folgenabschätzung zu Politikvorschlägen auf deutscher und EU Ebene*, in FAL: Jahresbericht 2003, FAL, Braunschweig.
- Mann, S. (2008). Lessons from a performance-based agri-environmental programme, in R.H. Theobald, *Environmental Management*, Nova Publishers, New York.
- USDA (2015). *Conservation Reserve Program – Honey Bee Habitat Initiative* (USDA: Washington, DC).
- Uthes, S. and B. Matzdorf (2013). Studies on agri-environmental measures: a survey of the literature. *Environmental Management*, 51(2): 251–266.
- Wunderlich, A. and S. Mann (2016). *The limits of fine-tuning – non-compliance in an agri-environmental program*. Internal Working Paper, Agroscope, Ettenhausen.


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Summary


Towards Agricultural Policy 3.0 – an agenda for agricultural research

 This article reviews the development from market-based support measures ('Agricultural Policy 1.0') towards direct and decoupled payments ('Agricultural Policy 2.0') which are increasingly justified by environmentally friendly practices ('Agricultural Policy 2.1') to which payments are bound. It describes frequent problems connected with today's agri-environmental programmes, particularly non-compliance and a too indirect link between practices paid for and environmental effects. Other programmes have started to pay farmers more directly for environmental outputs on their fields, such as the number of valuable plants on their grassland. Transaction costs for the administration and control of these programmes have been shown to remain at an acceptable level, so that such output-related policies may be effective and promising options. It is suggested to direct the work of agricultural researchers, including economists, into looking for a stronger link between environmental outputs and public support, something that could be termed Agricultural Policy 3.0. This could lend some more visibility, relevance and attractiveness to our discipline.

Pour une politique agricole 3.0 – un programme de recherche agricole

 Cet article passe en revue la transition à partir de mesures de soutien fondées sur le marché (Politique agricole 1.0) vers des paiements directs et découplés (Politique agricole 2.0) qui sont de plus en plus justifiés par des pratiques respectueuses de l'environnement. Il décrit les problèmes fréquents liés aux programmes agro-environnementaux actuels, en particulier le non-respect des conditions et le lien trop indirect entre les pratiques rémunérées et les effets environnementaux. D'autres programmes ont commencé à payer plus directement les agriculteurs pour des résultats environnementaux sur leurs terres, tels que le nombre de plantes de grand intérêt dans les prairies. Les coûts de transaction pour la mise en œuvre et le contrôle de ces programmes sont restés à un niveau acceptable, de sorte que ces politiques liées aux résultats apparaissent comme des options efficaces et prometteuses. Il est suggéré d'orienter le travail des chercheurs agricoles, y compris les économistes, vers la recherche d'un lien plus étroit entre les résultats environnementaux et le soutien public, conduisant à ce qu'on pourrait appeler une Politique agricole 3.0. Cela pourrait permettre d'accroître la visibilité et la pertinence de notre discipline, et de la rendre plus attractive.

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 Dieser Artikel überprüft die Entwicklung von marktbasierter Unterstützungsmaßnahmen („Agrarpolitik 1.0“) in Richtung direkter und entkoppelter Zahlungen („Agrarpolitik 2.0“), die zunehmend durch jene umweltfreundliche Maßnahmen gerechtfertigt werden („Agrarpolitik 2.1“), an die die Zahlungen gebunden sind. Er beschreibt häufig auftretende Probleme, die mit aktuellen Agrarumweltmaßnahmen verbunden sind, wie insbesondere die Nichteinhaltung dieser Maßnahmen und die zu indirekte Verbindung zwischen Maßnahmen, für die gezahlt wird, und Umwelteffekten. Mit anderen Programmen wurde nun begonnen, Landwirte direkt für die von ihnen erbrachten Umweltleistungen auf ihren Feldern zu bezahlen, wie z.B. für die Anzahl an hochwertigen Pflanzen auf ihrem Grünland. Die Transaktionskosten für die Verwaltung und Überwachung dieser Programme haben sich auf einem akzeptablen Niveau eingependelt, so dass solche ergebnisbezogenen Politiken eine effektive und erfolgversprechende Option sein könnten. Es wird vorgeschlagen, die Arbeit von Agrarwissenschaftlern und Ökonomen in Richtung einer besseren Verbindung zwischen Umweltleistungen und öffentlicher Förderung zu dirigieren; in Richtung von etwas, das als Agrarpolitik 3.0 bezeichnet werden könnte. Dies könnte unserer Disziplin mehr Sichtbarkeit, Relevanz und Attraktivität verleihen.