Pergamon

Food Policy 27 (2002) 1–29

FOOD POLICY

www.elsevier.com/locate/foodpol

Assessing the impact of food policy research: rice trade policies in Viet Nam

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Accepted 5 October 2001

Abstract

The economic impact of marketing and trade policy research in Viet Nam conducted by the International Food Policy Research Institute (IFPRI) is assessed using a novel benefit–cost framework. It measures the economic value of the time saved in hastening the policy responses of the Government of Vietnam. Extensive interviews with partners and stakeholders in the research clearly indicated that the time saving was a legitimate measure of the influence of IFPRI on decision-making. Linking a spatial equilibrium model with income distribution analysis based on national household surveys, allowed IFPRI to satisfy policymakers that relaxing rice export quotas and internal trade restrictions on rice would not adversely impact on regional disparities and food security, and would have beneficial effects on farm prices and poverty. These were major concerns of policymakers prior to the IFPRI research project. The research on these and other policy options gave a degree of confidence to policymakers that relaxing the controls would be in Viet Nam's national interest. They made these decisions earlier than would have been the case without the IFPRI research. The policy assessment framework is used to measure the economic impact of the policy changes themselves, and in particular, the contribution of IFPRI's work with Viet Nam on the policies from 1995 to 1997. The relaxation of rice export quotas and internal restrictions on rice trade made by the Government of Viet Nam in 1995–97 are estimated to have had a present (1995) value to Viet Nam using a 5% discount rate of $222 million by 2000, rising to $966 million by 2020. For an incremental research investment of less than US$1 million, a conservative estimate of the benefit to Viet Nam of the IFPRI contribution to the policy changes effected in Viet Nam from the reduction in the policy implementation lag indicates a present value in 1995 terms of US$45 million. This represents a benefit–cost ratio of 56. A more optimistic assessment is that the present

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PII: S0306-9192(01)00024-0

value is US$91 million with a benefit–cost ratio of 114. In addition to the welfare gains to Viet Nam, there were sizeable gains to the rest of the world from IFPRI's contribution. Inclusion of these benefits increases present value and benefit–cost estimates by 34 to 84%. Around 38% of the contribution of IFPRI is estimated to have accrued to the rest of the world, as Viet Nam is now a major player in world rice trade.

Keywords: Impact evaluation; Food policy research; Rice trade; Viet Nam

Introduction

Economists have been at the forefront of efforts to develop methodologies for the assessment of the economic benefits from biological and physical research and empirical techniques to quantify them. Almost 300 of such empirical studies are now available, containing more than 1800 rates of return estimates (Alston et al., 2000). It is ironic that economists have only recently begun to explore methodologies that might be employed to provide insights into how to articulate and measure the payoffs to policy-oriented social science research (POSSR). With increasing demands for accountability in the use of public funds for POSSR there is now more of an imperative to address these issues.

The difficulty in evaluating POSSR is that outputs or outcomes are disembodied, unlike embodied technological change resulting from most strategic and applied agricultural R & D such as improved disease diagnostics, crop varieties, fertilisers and pesticides. Hence attributing the causes and effects of POSSR is elusive. Dollar and Pritchett (1998) provide clear empirical evidence that sound macroeconomic and trade policies in developing countries substantially increase economic growth and reduce poverty. How POSSR contributed to these impacts was not examined explicitly by them however.

In the 70s there were some studies that focused on the value of more accurate market or price information. (Bradford and Kelejian, 1978; Freebairn, 1976; Hayami and Peterson, 1972). Later Lindner (1987) provided a more generalised conceptual framework for assessing the value of POSSR in a Bayesian framework, where it reduces the costs of wrong decisions (i.e. reducing uncertainty) and the perceived or real risks. In this sense incremental research information reduces the expected value of perfect information. The closer policymakers are to a situation of perfect information, the less valuable are marginal research investments into POSSR. This has some intuitive appeal in that presumably policymakers in transitional economies in particular are further from informational nirvana and hence per se the value of POSSR would be high in such cases. More recently Schimmelpfennig et al. (2000), using stochastic frontier cost functions and maximum likelihood and Bayesian estimation techniques, found that POSSR is significant in explaining cross-state differences in allocative efficiency in the US over time, but not in technical efficiency. Schimmelpfennig and Norton (2000a,b) employ Bayesian decision theory and economic surplus analysis directly in estimating the payoffs to specific agricultural economics research programmes in the US.

In this paper an approach to the assessment of the economic payoffs to POSSR is proposed that uses a partial equilibrium framework to first estimate the potential domestic and international welfare benefits of unilateral commodity trade policy changes in a country, and then endeavours to attribute part of these benefits to suppliers of specific POSSR information and advice. The framework incorporates the economic value of the time saved in hastening welfare-enhancing trade policy changes as a result of the timely provision of POSSR and its effective dissemination. The conceptual framework is first described and then an application of it to the case of rice marketing and trade policy research in Viet Nam conducted by the International Food Policy Research Institute (IFPRI) is elaborated. The author was commissioned by IFPRI to undertake this independent evaluation.

Of course the empirical estimates of both the value of the rice trade policy changes themselves, and importantly the share of them which could be attributed to specific POSSR activities are somewhat uncertain. Needless to say the latter estimate is inherently conservative, as it only attributes and values the time saving, without reference to either the added value of the research itself or the strengthening of economics research capacity in Viet Nam which resulted.

A framework for valuing policy research, information and advice

Fig. 1 depicts the national and international benefits of a relaxation of rice export quota controls, which was under consideration by the Government of Viet Nam. The

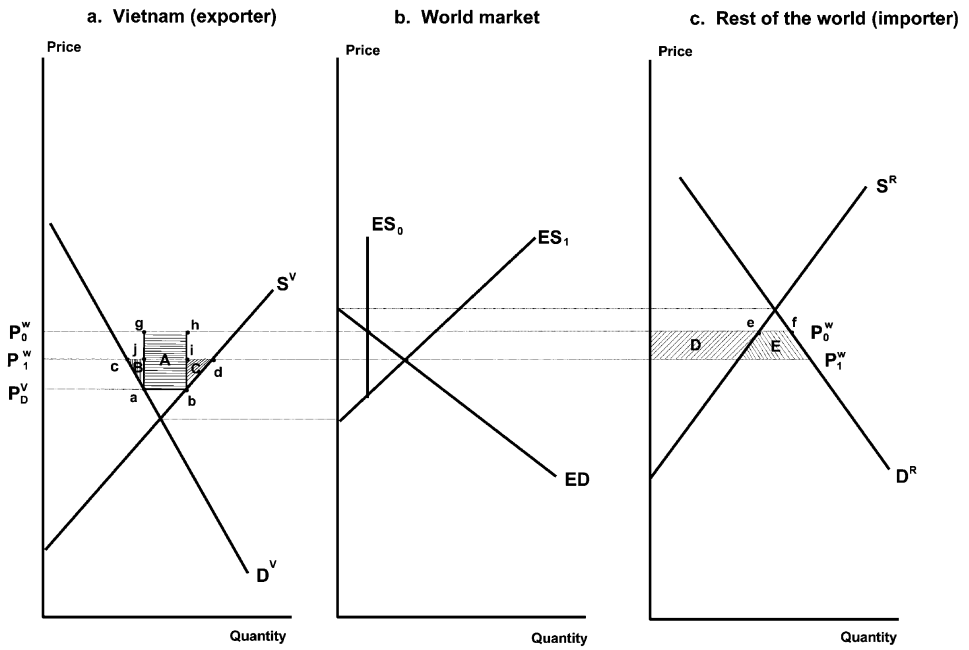

Fig. 1. National and international benefits from removal of rice export quotas.

excess demand (ED) and excess supply (ES) curves in Fig. 1b are drawn from the rest of the world market in Fig. 1c and the Viet Nam market in Fig. 1a, respectively. In 1995 the situation was that export quotas of *ab* in Viet Nam led to an excess supply curve ES_0, a world price of P_0^w a domestic price of P_D^v in Viet Nam, and imports by the rest of the world from Viet Nam of *ef*(=*ab*). With complete abolition of quota controls the world price equilibrates at P_1^w, at the intersection of the new excess supply curve ES_1 and ED.

The economic rent to the state owned enterprises (SOE) that control exports at the original world price P_0^w is (A) from Fig. 1a. This disappears upon complete relaxation of controls. One part (*ghij*) is transferred to the rest of the world, and the other part (*jiba*) is transferred to Vietnamese rice producers. The net gain in economic surplus to Viet Nam from the removal of restrictions is (B) plus (C) minus *ghij*. Rice producers in the rest of the world lose (D) from Viet Nam's relaxation of export quotas, and consumers in the rest of the world gain (D) plus (E), as depicted in Fig. 1c. The net result is a gain of (E) in economic surplus to the rest of the world. Part of (E) is a transfer from Viet Nam SOE (*ghij*) and part is dead-weight loss elimination. These estimates of economic surplus changes from implementation of trade policy changes can form the basis of an assessment of the contribution of POSSR to these outcomes. What is needed to do this is a means of attribution.

Taking a leaf from Bayesian decision analysis, POSSR that effectively informs the policy process with new, relevant and convincing information and insights is likely to lead to earlier decisions than would otherwise be the case. This is arrayed in Fig. 2. In the NE quadrant, the conceptual relationship between the duration of the research project and the output of knowledge or information is shown to exhibit a typical phase of increasing and then decreasing returns.[1] Moving anti-clockwise from the NE quadrant, the knowledge and information is then shown as affecting the time it takes to effect a policy change in the NW quadrant. Presumably this relationship can take many forms. Instead of the reverse L-shape depicted in Fig. 2, it could conceivably be a step-like function, commencing with a vertical phase on the left and ending with a vertical phase on the right, after a horizontal phase in between.

The saving in time from knowledge and information is then transformed in the SW quadrant into improvements in economic welfare from the more timely policy changes. It is measured basically as the benefits from discounting a stream of income gains that commence earlier. When these discounted welfare benefits are mapped in research time space, it results in the relationship depicted in the SE quadrant. If the particular piece of POSSR took OA time to complete, then AB measures the value of this research. Of course there is always the possibility that the policy changes made will be reversed at some future time when the political environment changes.

[1] It might be argued that Viet Nam is further away from a state of perfect information in the Lindner (1987) sense than perhaps a country like Bangladesh, where a lot of previous research on agricultural policy has been conducted by the many national policy research institutions and by IFPRI. Hence, Viet Nam's research time×knowledge/information production function in the NE quadrant presumably is in a phase of increasing returns, whereas in Bangladesh it may well be at the decreasing returns phase. Such assessments could assist in setting country research priorities in future.

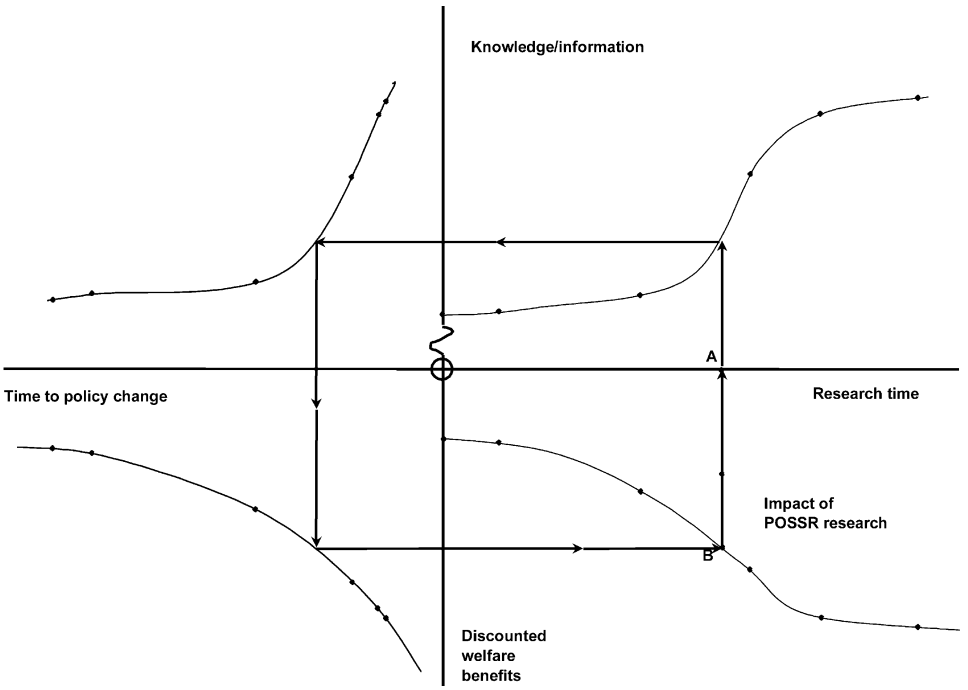

Fig. 2. Measuring the impact of POSSR on rice polices in Viet Nam.

In this event, the benefits can be short lived and impact evaluation must be sensitive to the possibility of such reversals.

Traxler and Byerlee (1992) are one of the few who have posited a similar relationship. However they were looking at crop management research, which they viewed as generating information that changes farmer practices involving the combination of inputs. The result is that the logistic curve typical in adoption studies is shifted to the left, increasing both the rate and the ceiling level of adoption, compared to what it would have been if alternative suppliers of the information were the only source. However, they did not attempt to empirically estimate the benefits of crop management research using this approach.

Babu and Mthindi (1995) bemoan the fact that decisionmakers often do not use information in making policy decisions. They point out that too often decisionmakers are involved in 'firefighting', with little time for informed decisions. Paucity of data is also often a handicap to policy formulation. Babu and Mthindi separate the benefits of policy research into pre- and post-decisionmaking benefits. The former involves improved processes related to capacity building and institutional strengthening. The latter are evaluations of the primary and secondary impacts of the policies that emerge. Babu and Mthindi measure costs and process benefits but do not attempt to measure impacts.

Garrett and Islam (1998) suggest that social science research evaluation should only look at outputs, processes, and potential outcomes, rather than focusing on

actual policy outcomes. They maintain it is difficult to establish a direct link to the policy impact of social science research and that often the research contributes to a body of knowledge that policymakers access when and if they see fit. There are four features Garrett and Islam attribute to Weiss (1980) that policymakers find useful: (1) research quality, (2) conformity to expectations, (3) action orientation, (4) challenge to the status quo.

It is contended here that evaluating the quality of the research output and the processes by which a research institute carries out and communicates its research findings is a necessary but not a sufficient condition for judging impact. Garrett and Islam maintain that it is sufficient. One must also look at post-decision impacts if an institution is going to be able to differentiate its product from others and sustain funding support in this era of increased accountability and contestability.

We will now proceed to use the proposed framework to evaluate the impact of POSSR undertaken by IFPRI in collaboration with the Ministry of Agriculture and Rural Development (MARD) on domestic and international rice trade policies in Viet Nam in the mid-1990s. We first describe the economic and policy environments leading up to the research, the sequence of policy changes that followed, and then the use of a regional spatial equilibrium model and extensive interviews with IFPRI partners and stakeholders in Viet Nam to measure the economic benefits of the policy changes that ensued, and the share that could be attributed to the particular POSSR that was undertaken.

Viet Nam economic and policy environment

Rice is the predominant commodity in the agricultural sector of Viet Nam. It currently accounts for 78% of the annual cropland and 90% of staple food production, which is about one half of agricultural production. Agriculture, forestry, and fisheries account for 29% of GDP, down from 50% in 1986. Some 75% of the labour force are engaged in this sector, and it contributes more than half of the value of exports. Rice contributes 75% of the calorie intake of Vietnamese households and almost 30% of the value of consumption expenditure.

During the French colonial period in the 19th and 20th centuries, rice exports rose, reaching 2 million tonnes in 1928. This was considered to have contributed to famine. Goletti and Minot (1997) suggest that this and later famines after World War II probably contributed to the sensitivity of policymakers to the effects of rice exports on the well being of the poor. They calculate the correlation between per capita consumption of rice and exports to have been -0.48 between 1912 and 1944. By the time the French left in 1954, rice exports were down to 0.15 million tonnes. By 1995, they were back to 2 million tonnes. The share of rice in exports has varied between 13 and 20%.

In 1989 Viet Nam began once again to increase rice exports, after importing 1 million tonnes each in 1987 and 1988 (Table 1). This followed the liberalisation programme, which commenced in 1981, with the contract system replacing collectivisation of agriculture. This allowed farmers to cultivate individual plots and sell

Table 1
Rice production, trade, and market trends in Viet Nam

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Paddy production (metric tonnes)[a]	19.0	19.2	19.6	21.6	22.8	23.5	25.0	26.3	27.6	28.3
Actual export quota (metric tonnes)[a]				1.9	1.6	1.9	2.0	2.9	3.6	4.0
Rice exports (metric tonnes)[a]	1.4	1.5	1.0	2.0	1.7	2.0	2.0	3.0	3.6	4.0[d]
Domestic wholesale rice (Mekong River Delta) prices (US$/ton nominal)[b]	143	135	162	155	159	163	200	207	201	195
Domestic real paddy prices:										
dong/kg[b]	480	600	490	370	330	320	370	400	*	*
US$/ton	107	87	53	33	29	29	34	36	*	*
Viet Nam rice export price (US$/ton)[c]	194	170	226	207	203	218	266	285	247	260

[a] IFPRI, 1996, p. 238, and personal communication with Francesco Goletti.

[b] Goletti and Minot (1997, pp. 5–33).

[c] Viet Nam export quality rose from 65% of Bangkok <5% brokens in 1989 to 79% in 1996.

[d] Exports to May 1998 were 2.5 million tonnes, which is in excess of what was planned to meet the quota. Exports for all of 1998 are expected to be no more than 3.8 million tonnes. Originally the quota was set at 4.0 million tonnes, but in mid-1998 the government revised this down to 3.6 million tonnes due to concerns about drought and food security.

* not available.

above-quota surpluses on the free market. Then followed the doi moi (renovation) policy in 1986, which announced the government's intention to encourage the development of the private sector; to give greater priority to agriculture, exports, and consumer goods; to reduce inflation by correcting budget deficits; and to promote international trade.

Specific Resolutions of the Politburo that encouraged agriculture occurred in 1988 with the acceptance of the household as the basic unit of agricultural production. Farmers were allowed to buy, own, and sell agricultural inputs such as machines, buffaloes and tools. Co-operative land was assigned to farming households for 10–15 years. In 1989, subsidies and price controls were eliminated, fiscal policy was tightened, gold trading was legalised, positive real interest rates were established, a unified and devalued exchange rate was put in place, and international trade was liberalised. In 1991, the export duty on rice was reduced from 10% to 1%, imported inputs used to produce exports were exempted from duties, and the Agriculture Bank of Viet Nam was allowed to lend to households. Individual property rights were further strengthened in 1993 allowing farmers to exchange, transfer, lease, inherit and mortgage land. Rice continued to be the only commodity subject to export quotas. All other quotas were removed in 1995, although as discussed later, rice export quotas were substantially increased from 1996.

These and other policy changes led to a growth in rice production of 5% annually in the period 1985–95. Yield increases contributed 57% of rice production growth, improvements in cropping intensity 38% and their interaction 8%. The cultivated area of rice declined during the period and contributed −4% to the growth in production. Viet Nam has commenced to cultivate hybrid rice, and there is currently some 50,000 hectares sown.

Between 1989 and 1995 real prices of paddy and rice declined annually by 3.1 and 4.5%, respectively, but price variability fell significantly. The price decline was primarily because of high domestic inflation and a decline in the real exchange rate of 12.5% per year, against the background of a rice export growth rate of 8.4% annually during the same period (Table 1). The rice competitiveness index fell 5.5% per year during this period. IFPRI estimates are that had the real exchange rate stayed the same, price incentives for rice producers would have risen by 7% per year. IFPRI conveyed this to MARD to assist it in dialogues with the Ministry of Finance (MOF) and the Ministry of Trade (MOT) regarding the pervasive effect of macroeconomic settings on the rice sector.

Thus overall socio-economic environment in Viet Nam in the years preceding the IFPRI involvement in the mid-1990s could be characterised as dynamic. The rice sector was flourishing in terms of production and productivity, in spite of unfavourable price trends. Incentives for private enterprise in agriculture were having significant effects on rice production and trade. IFPRI was not entering a command economy in decline but rather an emerging or transition economy much like China some 10 years earlier. There was hence receptiveness to the insights to be gained from research that addressed the policy environment surrounding a strategically and economically important food crop like rice, especially with an institution versed in the traditions of market economies, of which Viet Nam had little experience.

The government of Viet Nam had clearly embarked on a rice export strategy well before IFPRI arrived on the scene. Yet there was concern about continuing declines in paddy prices for farmers, poverty and food security aspects, interregional and rural–urban disparities, the linkages among all of these and their relationship to rice exports. These were strongly conditioned by earlier experience, especially with food security.

The policy research and the policy responses

IFPRI was successful in its bid for a project funded by the Asian Development Bank (ADB) to conduct a rice market monitoring and policy options study commencing in September 1995. The project formally ended in March 1997.

The objectives of the project were to:

- undertake an in-depth investigation of rice marketing, processing, storage and trade;
- analyse the structure of incentives, including the impact of existing interventions;
- assess the impact of reforms on farmers, processors, traders, exporters, and consumers;
- prepare rice policy options for implementation by the government;
- develop a data base on key rice market indicators;
- provide training to staff of concerned government agencies in statistical sampling, survey design, methods, data processing, and economic policy analysis.

The project aimed at building an understanding of the operations of both the domestic and international rice markets in Viet Nam. Little research had been done on rice markets prior to the IFPRI study, and the government was eager to examine policy options related to issues like decentralisation, infrastructure, marketing costs, deregulation, credit, technology, stocks, price stabilisation and input markets. The objective was to assist the government in making the transition from direct quantitative or fiscal interventions in the rice market to a more market-oriented profile and to further facilitate the policy dialogue between the ADB and the government of Viet Nam. The Ministry of Agriculture and Rural Development (MARD) was the primary collaborator with IFPRI in the study.

Essentially the project undertook a ‘structure, conduct, and performance’ analysis of the rice market and used this to inform the policy process in two ways. The first was to array the data collected in an extensive national survey in a manner that described the current rice marketing channels, their costs and constraints. The second was to utilise these primary data and other market and household survey data to construct a Viet Nam agricultural spatial equilibrium model (VASEM) to examine many options for changing policies to improve the functioning of the rice market and generate improved economic welfare.

An ambitious series of seminars, workshops, training courses, working papers, and research reports were planned at the outset to ensure the information would find

its way to the intended audiences.[2] Within one year from the commencement of the project in late 1995, the IFPRI team began to communicate the emerging results from the surveys and the analytical work associated with the VASEM model. Commencing in October 1996 and concluding around April 1997, there were a total of three workshops held in Vietnam involving 144 participants. Two were on methodology and one on policy. Ten seminars describing the results were also delivered in Viet Nam to ministries, research institutions, and universities during the same period. Some 331 people attended these. Six seminars were also given outside Viet Nam at the World Bank, FAO Bangkok, IFPRI, Malaysia, Singapore, and Japan, involving 185 people. More than 23 reports, papers, and training manuals relating directly to the rice policy project were prepared. One of the most comprehensive of these was the final report to the ADB (IFPRI, 1996). It comprised 535 pages and was completed in December 1996, some 15 months after the initiation of the study. It described the methodology; the background to the study; the structure, conduct, and performance of the internal and external rice market; domestic rice production and postharvest trends; rice competitiveness and food security; and the likely effects of various policy options on welfare. It was translated into Vietnamese in March 1997 to ensure that the partners in the project had full benefit from the work. An IFPRI Research Bulletin was published later (Minot and Goletti, 2000). The results from the project received good press coverage in 1996 and 1997. At least eight articles appeared during this period in the Asian Wall Street Journal, Financial Times, Dow Jones News Service and the Viet Nam Investment Review.

There were 13 specific policy recommendations that were made, as described in IFPRI (1996):

1. Progressively increase the rice export quotas until they are no longer binding.
2. Substitute current quotas with export taxes.
3. Give private sector access to rice exports.
4. Dismantle internal policy restrictions on rice movement and freely allow internal trade.
5. Promote rice exports with measures to improve rice quality, reduce shipping costs, and improve Viet Nam's reputation among foreign buyers.
6. Provide access to credit to marketing agents to facilitate procurement operations, storage activities, and investments in processing and transport.
7. Provide access to information on prices, food production, international markets, and the marketing system to a variety of marketing agents, both public and private.
8. Provide a stable and credible policy environment.
9. Monitor macro policies to ensure exchange rate depreciation does not penalise farmers.
10. Target food security stocks and distribution to food insecure households.

[2] Further details of the IFPRI project activities, outputs and accomplishments can be found in Ryan (1999).

11. Target investments in agricultural research to increased yields.
12. Target agricultural research to improve rice quality.
13. Invest in postharvest technology.

It is informative to juxtapose the chronology of major rice policy changes that were made by the government of Viet Nam since IFPRI first initiated contact in 1992 to the activities of and outcomes from the IFPRI rice policy research. This is arrayed in Table 2.

Although Viet Nam had embarked on a policy of increased rice exports prior to the IFPRI involvement, it seems that 2 million tonnes was seen as an upper limit in view of concerns about the effect higher levels would have on food security. Experience in the French colonial period in the 19th and 20th centuries had led to a belief in a direct causal relationship between increased rice exports and famine in the country (Goletti and Minot, 1997). In late 1996 when IFPRI began to communicate the results of its rice trade policy research, Viet Nam was experiencing a period of falling rice prices which led to farmer agitation in the south. As a result, intense discussions took place within and among ministries and the Government Office about price policy, exports and internal trade. In all of this MARD was the major protagonist for

Table 2
Chronology of rice policy decisions by the government of Viet Nam (GOV) and IFPRI involvement

Year	IFPRI activities	Government decisions
1992	Initial contact with VASI director in France. Suggestion for IFPRI to undertake research collaboration. Planning for IFPRI senior staff visit to Viet Nam.	Rice exports at 1.9 million tonnes.
1993	Director of Markets and Structural Studies Division visits Viet Nam. Establishes formal linkages with government. Recommends visit of director general.	Land Reform Resolution No. 5 (five rights) promulgated. Rice exports at 1.6 million tonnes.
1994	Director general leads IFPRI delegation to Viet Nam. Introduces IFPRI's programme to ministries and research organizations. Explores scope for collaboration.	Government response to IFPRI visit passive. Rice exports at 1.9 million tonnes.
1995	IFPRI commences study on property rights to land with VASI as part of multicountry study. IFPRI/DAI submit proposal on Rice Market Monitoring and Policy Options Study to ADB in May after invitation to make submission, a competitive process. Funding approved in July and project commences September. Surveys begin December.	Rice exports at 2.0 million tonnes. High world prices of rice. Rice trade very active. Government imposes controls on domestic trade from concern about food security in north. Illegal rice flows to China.

(*continued on next page*)

Table 2 (*continued*)

Year	IFPRI activities	Government decisions
1996	Surveys continue to June; training courses conducted January–March; study tour to Thailand undertaken in June. Analytical work undertaken July–September. Final workshop in October to present results. Many seminars around country before and after.	Intense discussions in many government for a stimulated by the IFPRI studies led to reevaluation of rice policies. Crisis in May–June after main April harvest led to significant price falls. Farmers complain to provincial leaders in south. Minister of Agriculture and Rural Development visits south to review situation and promises farmers price support. Intense discussions in December involving MARD, Government Office, SOE, MOT, MPI, MOF, Government Price Committee, provincial leaders over rice price policy and exports. MARD main protagonist for liberalisation using IFPRI study as a key input. Exports reach 2.9 million tonnes without a crisis.
1997	Training programme on VASEM model January and March. Conclusions of rice policy study presented at World Bank/FAO Seminar on Rural Development in Hanoi. Model refinements in response to feedback do not alter conclusions. IFPRI joins Lincoln International in June to bid on United Nations Development Programme (UNDP) rural development strategy contract. IFPRI responsible for agricultural diversification and poverty mapping. Project commences August. MARD delegation led by Vice Minister visits IFPRI in Washington, DC.	Decrees by Prime Minister in March raise rice export quota to 3.5 million tonnes, allow competition between SOE and provincial food companies, and liberalise domestic trade. Rice exports 3.5 million tonnes. Market monitoring unit set up in MARD in November.
1998	New study on starch industry development with PTRI and Centro Internacional de Agricultura Tropical funded by the International Development Research Centre. UNDP project on diversification and poverty mapping completed and seminar held in March. Decision to have IFPRI Board of Trustees meeting in Hanoi in February 1999 and to hold symposium on Food Policy in Indochina jointly with MARD. Food processing study conducted in April for the United Nations Industrial Development Organisation involving rice, coffee, seafood, fruits and vegetables. Trade incentives and constraints study conducted for World Bank in May. Impact study conducted July–September.	New decree by Prime Minister raising rice export quota to 4.0 million tonnes and providing for private-sector participation. In March, four private companies apply for export licenses. No licenses yet issued. Government curbs further exports in June after they exceed expected rate in May at 2.5 million tonnes. Domestic prices very high. Rice exports still expected to reach 3.8 million tonnes.

liberalisation, and as it was IFPRI's formal collaborator in the rice policy project, it made explicit use of the emerging results from the joint study, especially that which showed that Viet Nam could export up to 5 million tonnes without impairing food security or exacerbating poverty, and with considerable benefits to farmers. More will be said about this relationship later.

In the event, rice exports rose to 2.9 million tonnes in 1996, even though there was a de jure quota of 2 million tonnes at the beginning of the year (Table 1). A crisis did not result, and in early 1997 decrees by the Prime Minister raised the quota to 3.5 million tonnes, removed the monopoly of the state owned enterprises (SOE) in rice exports, lifted internal trade restrictions on rice, dropped licences and controls on transport, and removed wholesale taxes on food. The MOT and MARD were given the joint responsibility to regulate exports of rice.

In early 1998, the quota was further raised to 4 million tonnes and private-sector participation in rice exports was allowed. In June 1998, the government curtailed further exports that year because there was concern that they were likely to exceed the announced annual quota. The government had in recent years announced the annual quotas in February–March and made provisions for modifying them in the light of emerging trends, if necessary, in September. This was to ensure that food security was not jeopardised. In 1998, the temporary correction occurred three months earlier in June, partly because of a drought in the north. Expectations were that, in spite of this intervention, exports for the year would still reach 3.8 million tonnes.

There is still no trade allowed in the export quotas, and the rice export tax is currently zero. However, the MOF reserves the right to impose export taxes depending on the demand and supply situation. The creation of a market monitoring function within the MARD is consistent with the finding in the IFPRI study that price discovery by market participants is rudimentary. IFPRI played an advisory role in the early stages of this innovation. Currently the system is tracing domestic, border, and international markets for some 10 agricultural commodities, using national and international databases, intranet and internet.

Perceived influence of IFPRI

It would appear that a number of the conclusions and recommendations from the IFPRI study found their way into the policy arena. However, it is an altogether heroic step to assert from this congruence that the policy changes were the direct result of IFPRI influence. Indeed, others were involved and it is important to recognise this. These included the Centre for International Economics Canberra, the Centre for International Economic Studies Adelaide, and the Harvard Institute for International Development, Lincoln International New Zealand, and the National Centre for Development Studies Canberra.

If one is to attempt to relate the work of IFPRI to the policy changes that took place and are continuing to take place, reference to partners and stakeholders is necessary. Their perceptions about the policy environment and the role that IFPRI

research played in the processes surrounding the policy changes is critical in assessing whether the IFPRI policy research made a difference. In doing this, it is important to appreciate that there are understandable sensitivities involved, which can cloud the attempt at attribution. One does not wish to compromise IFPRI's ability to collaborate effectively in the future in Viet Nam or elsewhere by inappropriately crediting IFPRI with impacts that rightly belong to others, or that are joint.

In August–September 1998, the author undertook a series of interviews with some 35 persons who were either partners in the research endeavour (13) or stakeholders in the outcomes (22). Reliance was placed on both the IFPRI staff concerned in the project, as well as other actors in the policy environment in compiling the list of 35 interviewees. In some cases the interviewees suggested new names, which were added to the roll. Most of those who were on the list were available to be interviewed in person. In a few cases phone interviews were used. A list of 38 questions was drafted based upon a reading of the documentation associated with the study and from discussions with the primary IFPRI staff involved. These questions covered capacity building and training, the policy environment, the demand for IFPRI involvement, the communication of results, the policymaking impact, and new information and insights.[3]

The interviews were conducted without the presence of IFPRI staff. In Viet Nam, the IFPRI staff member who accompanied the author to the country introduced him to those being interviewed and gave a brief background of the reasons for the impact study. He then left the room. This introduction was felt necessary to satisfy those interviewed of the bona fides of the author. In 23 of the interviews where Vietnamese respondents were involved an interpreter was present. He was the primary counterpart in the study with IFPRI from the Department of Science and Technology of MARD. This facilitated discussions in ways that an interpreter with no knowledge of the project could not have done. Admittedly he may have exerted unintentional influence on the interviewees, but the author was satisfied that this did not affect the objectivity of the exercise. Each interview took no more than one hour in general. The list of questions was used as a guide and prompter in conducting the open-ended interviews. At the interviews the questions were tailored accordingly to the interviewee, because not all were familiar with every aspect of the study or its influence. Hence it was not possible to undertake a rigorous analysis of the frequency of responses, and this is one limitation of the interview processes employed in this study. It is conceivable that non-responses may imply interviewees did not wish to make negative statements and hence that the extent of positive responses in Table 3 is biased upwards. The author has no way of verifying this.

It is clear that the IFPRI study is perceived in Viet Nam as providing original insights into the rice sector in the country, with many people who would be regarded as informed being surprised about a number of the findings (Table 3). Prior to the study, there was not a detailed understanding of the sector, nor was there basic information on aspects such as trade flows, marketing channels and margins, costs

[3] For further details about the questions and those interviewed see Ryan (1999).

Table 3
Summary of partner and stakeholder interview responses

Question or issue related to IFPRI study	Number of responses	
	Positive	Negative
1. Did aspects of study surprise or give original insights?	17	2
2. Policies on rice export quotas and increased private-sector role influenced	16	1
3. Policies on rice export quotas and relaxation of internal trade controls occurred earlier than otherwise	14	0
4. Training was effective	10	0
5. Overall assessment of study excellent	9	1
6. Data and recommendations used by government of Viet Nam	8	0
7. Conclusions on links between rice export quotas and poverty/food security influential	8	1
8. Expressed demand for further IFPRI policy research	5	0
9. Policy on rice export tax influenced	5	1
10. Policy research capacity sustainably strengthened	5	2
11. Policies on targeted programmes for poor influenced	4	0
12. Conclusions on importance of exchange rate and monetary policies on rice competitiveness influential	4	1
13. Policy on credit availability influenced	4	2
14. Data and recommendations used by stakeholders	2	0
15. Is VASEM model still being used?	2	4
16. Press coverage good	1	0
17. Institutionalisation good	1	4
18. Conclusions on effects of rice export quotas on domestic price stability influential	0	1

of production of paddy, price differentials within and without the country, and transport costs. By judiciously combining primary and secondary data in standard 'structure, conduct, and performance' analysis, IFPRI was able to illuminate the policy environment with new and relevant information. This undoubtedly set the stage for a receptive audience for the policy conclusions and recommendations arising from the later modelling work. In this sense the research changed the prior probability distributions of the states of nature of policy makers, which is analogous to the Bayesian framework employed recently by Schimmelpfennig and Norton (2000b) to assess and attribute the influence of three research programmes of the ERS of the USDA on resultant policy outcomes, and their likely economic impacts.

Many decision makers stressed the importance of the surveys and the primary

data analysis that followed in establishing the credibility of IFPRI to be able to address policy issues in Viet Nam, and for the outcomes to be seriously considered by them. The study "changed the level of dialogue in Viet Nam" (Interview 1). Its quantitative nature was regarded as a first and its employment of VASEM to address key policy issues as powerful. Other modellers were seen as too academic. Indeed, key decision makers in MARD requested IFPRI to examine many options because the quality of the data and model gave them confidence. In time, they became advocates for the policy recommendations that were emerging from the study, well before the publication of the final report in December 1996 (IFPRI, 1996). This experience parallels that of Weber et al. (1988) with food policy analysis in Africa, where simple and timely data gathering and analysis created a continuing demand by policy makers for more refined research.

The originality of the study also derived from its use of competitive market economics to address policies. Many senior policy analysts in Viet Nam were trained in the former Soviet Union. The younger analysts, who are now returning to Viet Nam with MS and PhD degrees from the United States, Europe, and Australia, saw the IFPRI study as a reinforcement of their newly acquired skills. Indeed a number of current MSc students are using the IFPRI data. The lifting of the US embargo on Viet Nam in 1995 and the country's membership in the World Trade Organisation and the Asian Free Trade Association were also seen as opportunities to embrace competitive market concepts. The transition from a command to a market economy was assisted by studies like that of IFPRI.

There was strong agreement that the IFPRI study had an influence on the decisions about relaxing rice export quotas, involving the private sector in exporting, and removing internal trade restrictions (Table 3). No one claimed that IFPRI was the sole influence on these policy changes, but rather that it was a key strategic input into a policy process that involved many actors and vested interests. The 19 workshops and seminars that were conducted by IFPRI were regarded as crucial in building the consensus that is required in Viet Nam before such policy changes are effected. There is not one policymaker or institution but rather a diffuse mechanism, and IFPRI's independence and the quality of its research and extensive communications facilitated the arrival of consensus on these policy issues. There was "very hot discussion" and the IFPRI study added confidence that there would not be unwanted or unexpected consequences from further change (Interview 18). Not only that, but the advice was most timely. Indeed, many felt that these changes occurred much earlier than they would have without the IFPRI study. More will be said about this later.

There has been a suggestion that the ADB, who commissioned the study, made relaxation of controls on rice a condition of the release of further funds in a sector programme loan. It has not been possible to verify this from the ADB, but it was certainly not the impression one received from discussions with Viet Nam's senior policymakers when this question was asked. Another view, by an alternative supplier of policy advice to Viet Nam, was that there was a conspiracy between the World Bank and the ADB to influence liberalisation and that IFPRI was the "instrument" (Interview 10).

A number of interviewees felt that the choice of MARD as the partner in the project facilitated the subsequent influence on policy processes and policy formulation. One alternative may have been for IFPRI to collaborate more directly with research institutions like the Vietnam Agricultural Science Institute, the Institute of Agricultural Economics, or the National Economics University, which may have had the advantage of enabling the research and databases to be better institutionalised than it appears was the case.[4] However, this may have come at the expense of short-term impact, as these research institutions are not explicitly integrated into the decision-making process. In this context, it is important to note that the recommendations for the relaxation of internal and external controls on rice to the Prime Minister came from the Minister of Agriculture and Rural Development. MARD is now regarded as the leader in the formulation of agricultural policy, significantly because of its collaboration with IFPRI.[5]

Training was regarded as a strong feature of the project (Table 3). No one was negative about it, but there was almost universal agreement that much more is required and that it should be continuous. Many thought the study was excellent in both content and quality and that the government was making extensive use of it. "Everyone is using it" and it was a "landmark study" (Interview 1). The presentations in the seminars and workshops received high praise.

One of the more influential aspects of the study was said to be the work that showed the effects of relaxation of rice export quotas on poverty and food security (Item 7, Table 3). It will be recalled that these were major concerns of policymakers, and the IFPRI study certainly seemed to satisfy them about this aspect. Apparently, decisions about whether to invest heavily in additional rice storage to accommodate the expected growth in stocks were being considered at the end of 1996 at the same time as export quota relaxation was being debated, against the background of the conclusions and recommendations of the IFPRI study. Indeed, these were seen to be alternatives in some sense. In MARD discussions at the time, issues related to possible price rises and food security effects were paramount. There was comfort taken in the IFPRI conclusions that, while price rises were likely to occur if quotas were increased, this would not compromise the food security or welfare of the poor. Provision was made to increase wages of government employees in urban areas to compensate them if need be. To ensure a smooth transition, the decision was taken to ease the quotas only gradually.

There has been only weak support evident from the interviews that the conclusions about rice export taxes and targeted programmes for the poor in the IFPRI study have been influential in effecting change (Items 9 and 11, Table 3). Rice export taxes have been revised up and down over recent times and currently the rate is

[4] Item 17 of Table 3 shows that institutionalisation was regarded as the weakest feature of the project from respondents. This is of concern from the point of view of the sustainability of the influence of the IFPRI research.

[5] A shortcoming of the interview process was the failure to include the Ministries of Trade and Finance who could have verified the view of others interviewed about the roles of both MARD and IFPRI in the decisions about changes in rice trade policies.

zero. There does seem to be greater attention to deficit regions to ensure that rice supplies are in stock and special programmes for the poor have been strengthened.

While IFPRI was conducting the study with Viet Nam, the capacity of MARD to undertake policy analysis was strengthened, but it has not been a lasting impact (Items 10, 15, and 17, Table 3). This is unfortunate because the credibility and reputation of IFPRI was in fact enhanced in Viet Nam during the course of the study, and there is now an unmet demand. For example, there were requests that IFPRI expand the model to accommodate livestock, other crops and inputs. The commissioned studies involving IFPRI that followed the original rice study are not a perfect substitute for a continuing presence in key institutions to help maintain and update databases, give training courses, refine models and be responsive to emergent policy issues. It seems no institution or individual in Viet Nam is currently able to run the VASEM, and only one or two have ever tried. The officers in MARD who worked most closely with IFPRI in the study have other priorities and pressures that preclude them from taking the major responsibility for keeping VASEM operational and relevant.

Ancillary conclusions and recommendations from the IFPRI study related to the importance of macroeconomic policies on rice competitiveness, credit constraints and the effect of quotas on domestic price stability were not viewed by respondents as being very influential (Items 12, 13 and 18, Table 3). Key stakeholders like the World Bank did make explicit use of the data and findings. For example, the Bank's draft Viet Nam rural development strategy document has five citations to IFPRI's work in Viet Nam (World Bank 1998). The press coverage was not noted in the interviews as being significant.

Decision making processes

On rice and related policies, MARD is the pre-eminent ministry. But because a major issue like rice exports was involved, both the MOT and the MOF were also key actors (Fig. 3). Within MARD, the director of the Department of Agricultural and Rural Development Policy was the focal point of advocacy for change. MARD and MOF both were concerned about the power and economic rents being earned by the SOE from their rice export monopoly. MPI was also involved in the decisions, as rice is a strategic commodity and important in the economy. The Central Institute of Economic Management within MPI was especially involved because it plays a key role in the whole reform process that is under way in Viet Nam.

International stakeholders like ADB and the World Bank played an indirect role in the processes underlying the decisions described in Table 2. They undoubtedly made effective use of the IFPRI study. However, it is not clear that their 'leverage' was instrumental in directly affecting the nature of the changes or the timing. They, like IFPRI, were one of the many players influencing the process. Apparently FAO and the United Nations Development Programme were much less explicitly involved in the decisions that were made.

The Government Price Committee was an important player in the process, as it

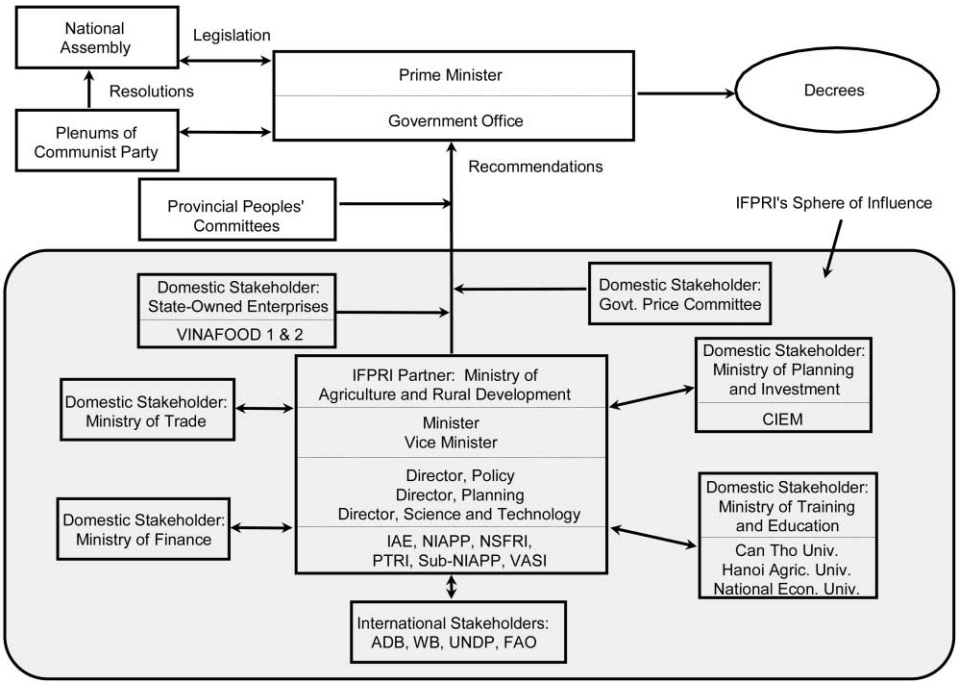

Fig. 3. Decision processes in rice policy changes in Viet Nam.

is within the Government Office arrangements, which are between the ministries and the Prime Minister's Office. They were kept informed of the study and participated in the seminars and workshops. The SOE were understandably somewhat antagonistic to the outcomes of the IFPRI study but did allow the initial market survey to include a sample of the SOE.

There were many other domestic stakeholder institutions that were associated with the IFPRI study in some way, either directly, as a collaborating partner like the National Institute of Agricultural Planning and Projection, or as a peer or mentor, such as the universities.

The extensive series of IFPRI seminars and workshops that took place as results were emerging were able to reach most of the agencies arrayed in Fig. 3. Copies of the final report to the ADB in English in December 1996 and in Vietnamese in March 1997 followed (IFPRI, 1996). As with the study of the impact of IFPRI's research on food ration shops in Pakistan, conducted by Islam and Garrett (1997), the influence of the research was felt well before the formal publications arising from the study appeared. The influence stemmed from the effective oral communication of research results and advocacy of policy changes to disparate audiences, who subjected them to peer scrutiny.[6] This process itself built up confidence among decision

[6] Gardner (1997, p. 21) points out that estimates of dead-weight losses from US farm programmes by economists were not as influential as advocacy by them to newspaper editorialists, government experts,

makers to effect the changes, as they became assured that all those with vested and other interests were hearing the same messages from an independent and reputable international organisation. Resolutions from the plenums of the Communist Party and decrees from the Office of the Prime Minister resulted. The plenums establish broad strategies and policy directions. The timing and content of policy is primarily the responsibility of the Prime Minister on the advice of ministers and the Provincial People's Committees. The sphere of influence of IFPRI on the policy processes in Viet Nam related to the rice issues hence appeared wide and pervasive, which was appropriate given the diffuse and participative nature of the decision making environment.

Estimating the value of IFPRI rice trade policy research with Viet Nam

In this author's view, IFPRI can be regarded as an institution that contributes to the body of international social scientific knowledge through the quality assurance processes of independent peer review. This knowledge includes mostly goods of a public nature at the basic-strategic end of the research spectrum. Because of the quality of its staff, it can also draw on the same body of knowledge to build a reputation and credibility that enables it to respond to requests for collaboration on more applied aspects of social science and policy formulation in a timely fashion, bringing the best of methodology and analysis to bear.

IFPRI's unique role and character is described in the recent study by Christian and Pardey (1998). Their bibliometric analysis compares IFPRI's publication output with five other institutions that also conduct policy research. IFPRI compares more than favourably with the others using most measures of contribution to the scholarly literature. They found that IFPRI effectively conducts both applied and more basic research, provides a linkage between developed and developing country scholarly communities, and contributes to the more rapid transfer into practice of new policy knowledge because of its ability to act as an intermediary between scholarly communities and policy clienteles. IFPRI's published work is cited to a similar extent to all of its comparators in the study, and all are cited more often and more widely than are economics papers in general.

Clearly, there were alternative suppliers of social science and policy research and advice to Viet Nam as indicated earlier. IFPRI has a critical mass of policy researchers all devoted to the problems of developing countries and can assemble teams with complementary skills relatively quickly. IFPRI also has experience in primary and secondary data gathering and analysis and access to databases that give it some comparative advantage over many other alternative suppliers. Being in the CGIAR perhaps provides a primary differentiating factor for IFPRI, compared with these other internationally recognised entities. Countries like Viet Nam are quite

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and commodity grant representatives, to the effect that commodity programmes were costing billions to taxpayers, but accomplishing much less for farmers.

familiar with other CGIAR centres like the International Rice Research Institute and the International Crops Research Institute for the Semi-Arid Tropics; when it learned that IFPRI is a part of the same system that serves so well in the biological sciences, its level of confidence rose. All of this potentially gave IFPRI the credibility and reputation to reduce the research and adoption lags associated with its research vis-à-vis alternative suppliers in the manner portrayed in Fig. 2. In the mind of this author, this has certainly been evident in the Viet Nam rice policy work, and the economic value of the time saved hence is one legitimate measure of its impact.

It will be recalled that many of those interviewed stated clearly that the IFPRI research hastened the decision making on these issues (Table 3). The estimates range from a time saving of at least six months to more than two years (Interviews 4 and 18, respectively). Unfortunately, only a few respondents were prepared to provide an empirical estimate of the time saved, so a distribution and central tendency could not be derived. In its place the range was used to set a conservative estimate of one year and a more optimistic one of two years. If we apply these time savings to the estimated increases in national income to Viet Nam from the policy changes that are derived from the VASEM, we arrive at a measure of the economic benefits from the IFPRI role. We will not assume that the economic surpluses generated by a relaxation of controls are all attributable to IFPRI; rather that they simply occurred earlier than they otherwise would have.[7]

We implicitly assume here that the VASEM simulations correctly portray the efficiency gains and distributional outcomes from policy changes.[8] In the Bayesian contexts suggested by Lindner (1987) and Gardner (1997), there is of course a cost of possible wrong decisions due to a chance that parameter values and settings in VASEM are not the true ones. In view of the extensive primary data gathering phase and peer review processes within IFPRI during the many outside seminars and workshops and in professional journal submissions, the probability of that is minimal.

In Table 4 empirical estimates of the economic value of the rice policy changes effected by the government of Viet Nam itself and the IFPRI contributions to rice policy formulation in Viet Nam are arrayed. They have been generated using the VASEM model under the various assumptions about the pace at which export quotas and internal trade flows were relaxed. In row 2A the benefits of the export quota changes that actually occurred are calculated as the difference in annual national income between cases 1B and 1A in Table 4. A conservative view of the impact of IFPRI on these changes is shown in row 2B as the difference in national income streams between cases 1B and 1C. Similarly, a more optimistic view is in row 2C, which is derived from the national income differences in rows 1B and 1D. To each

[7] Further details of the IFPRI project activities, outputs and accomplishments can be found in Ryan (1999).

[8] The VASEM has been modified since the initial simulations reported in IFPRI (1996). The version used here is basically that in Minot and Goletti (1998). It does not include a multiplier effect from income changes, it uses a domestic rice demand elasticity of −0.3 instead of −1.0, and it has the export demand elasticity for Vietnamese rice at −12.0 instead of infinity. The benefits of policy changes using the earlier specification were more than double those reported here.

Table 4
Value to Viet Nam of IFPRI research on rice policies

	Years						
	1995	1996	1997	1998	1999	2000	2001
1. Export quotas (million tonnes)							
A. Without policy change	2.5[a]	2.5	2.5	2.5	2.5	2.5	2.5
B. At actual levels with IFPRI	2.5	3.0	3.6	3.8	4.0	4.0	4.0
C. At delayed levels conservative about IFPRI comparative advantage over alternative suppliers	2.5	2.5	3.0	3.6	3.8	4.0	4.0
D. At delayed levels more optimistic about IFPRI comparative advantage over alternative suppliers	2.5	2.5	2.5	3.0	3.6	3.8	4.0
2. Benefits and costs (US$ millions)[b]							
A. Benefits of policy changes[c]	0	16	54	60	66	80	80
B. Conservative value of IFPRI role[d]	0	16	35	0.[e]	0	0	0
C. More optimistic value of IFPRI role[f]	0	16	54	36	0	0	0
D. Cost of IFPRI research	0.183	0.552	0.138	0.000	0.000	0.000	0.000

[a] The de jure quota was set at 2.0 million tons; however, informal exports to China were estimated at 0.5 million tonnes in 1995. Hence, the base case was set at 2.5 million tonnes and amounts to an even more conservative estimate of the benefits.

[b] The benefits include those from relaxing both export quotas and internal trade controls on rice. The latter occurred in 1997 in case 1A. It is lagged one and two years in 1C and 1D, respectively. Only benefits accruing to Viet Nam are shown; those to the rest of the world are excluded here.

[c] Measured as the difference between national income estimates generated from VASEM under 1B minus 1A.

[d] Measured as the difference between national income estimates generated from VASEM under 1B minus 1C.

[e] As actual exports under scenario 1B approach 4.0 million tonnes, the differences in national income estimates between scenarios 1B, on the one hand, and 1C and 1D, on the other, disappear. This is because under the large country assumption, as Viet Nam approaches the free-market level of exports, the gains from liberalisation are offset by the losses due to lower world prices. The benefits of export liberalisation are underestimated (overestimated) to the extent that the assumed elasticity of export demand (−12) is too small (large) in absolute value.

[f] Measured as the difference between national income estimates generated from VASEM under 1B minus 1D.

of these benefit streams is added the benefit from relaxation of internal trade restrictions, which are estimated to begin in 1997 in case 1B, 1998 in 1C, and 1999 in 1D.

The estimates of IFPRI's contribution to the income gains to Viet Nam generated from the policy changes peak in 1997. In the conservative scenario (2B) they cease in the year 1998, whereas they continue for one more year in the more optimistic scenario (2C). The peak annual value is $54 million in the latter case and $35 million in the former. The benefits to Viet Nam from the two policy changes of course continue for as long as the policies remain in place. These stabilise at $80 million annually from 1999. Credit should be given to the government of Viet Nam for making these policy decisions, which have clearly had major economic benefits to the country, without adversely affecting the incidence of poverty.

The present values and benefit–cost ratios of the benefit streams under the three scenarios are depicted in Table 5. If we truncate these at 1997 to reflect only those realised to date, the most conservative estimate of IFPRI's contribution to Viet Nam is a present value of $45 million, yielding a benefit–cost ratio of 56. If we use the more optimistic assessment of IFPRI's role and truncate at 1997, we obtain a present value of $61 million and a benefit–cost ratio of 77. Allowing the benefit streams to play out until 2000 does not increase the conservative present value. For the more optimistic scenario, the present value increases to $91 million and the benefit–cost ratio to 114 when calculated to 2000.[9] The present value to Viet Nam of the two

Table 5
Benefits and costs of the IFPRI research on rice policies to Viet Nam and the rest of the world

	1995–1997		1995–2000	
	Viet Nam only	Viet Nam, plus ROW[c]	Viet Nam only	Viet Nam, plus ROW[c]
Present values (US$ millions)[a]:				
Of policy changes	61	98	222 (966)[b]	355 (1526)[b]
Conservative value of IFPRI role	45	72	45	82
More optimistic value of IFPRI role	61	82	91	149
Benefit–cost ratios:				
Conservative value of IFPRI role	56	91	56	103
More optimistic value of IFPRI role	77	103	114	187

[a] In 1995, using a 5% discount rate.

[b] Figures in parentheses represent the present values with the benefit streams from policy changes continued up to 2020.

[c] ROW=rest of the world.

[9] From 1975 to 1995 donors had contributed a total of $108 million to IFPRI. Hence this single project, representing less than 1% of the total cost of IFPRI, has generated benefits of between 42 and 84% of the total costs of all of IFPRI's programmes since it began operation.

policy changes (without attribution) is estimated at $222 million up to 2000, rising to almost a billion dollars if policies remain in place until 2020.

Whereas the interviews in Viet Nam were convincing about the influence of the IFPRI research outcomes on decisions that had an effect beginning in 1996, the fact that the research project did not formally end until early 1997 might suggest that attributing effects in 1996 is heroic. Although the author believes the scenarios analysed in Tables 4 and 5 fairly depict the contributions of IFPRI, another set of simulations were done assuming the policy changes were not affected by IFPRI until 1997. The present values and benefit–cost ratios fell between 18 and 23% when this adjustment was made.[10]

The benefits derived from using VASEM in Table 4 exclude those accruing to the rest of the world from the increased exports of rice from Viet Nam.[11] Viet Nam is a low-cost producer of rice and the rest of the world is a net importer from Viet Nam. It now represents some 20% of world rice trade, and the current VASEM uses an export demand elasticity of −12 for Viet Nam rice. In these circumstances there will always be a positive net welfare gain to the rest of the world from a relaxation of export quotas on Vietnamese rice, as shown earlier in Fig. 1. Hence the above welfare benefits to Viet Nam underestimate the total international benefits. Rice consumers in the rest of the world gain and producers lose. The rents of the SOE in Viet Nam are reduced and accrue to both consumers in the rest of the world and Viet Nam rice producers. Efficient rice producing and exporting countries like Thailand may lose from Viet Nam's entry into the world market.

Table 5 also shows the present values and benefit–cost ratios with benefits to the rest of the world included. Depending on the scenario, inclusion of the international benefits from the policy changes increases the present values and benefit–cost ratios by 34–84%. Viet Nam's share of the total international benefits from the two policy changes is 62%. The balance of 38% spills over to the rest of the world. Between 55 and 61% of IFPRI's contribution to the international benefits accrues to Viet Nam. It is notable that this implies 39–45% of IFPRI's contribution to improved welfare is of an international character in this particular project. It is perhaps appropriate that this can be demonstrated for an Institute with an international mandate and a focus on public good research.

Some 60% of Viet Nam's exports of rice are to predominantly low-income countries of Asia and Africa (Goletti and Minot, 1997, pp. 7–27). These stand to gain directly from the decline in world prices occasioned by expanded exports from Viet Nam. However, the benefits of lower world prices from Viet Nam's expanded role in the export market also accrue to countries importing rice of similar quality to Viet Nam but from other countries. To the extent that these are also low-income countries, the international benefits from Viet Nam's rice policy changes may have tended to favour the poor also. In 1992–94 low-income countries represented only some 50%

[10] The 1995–1997 truncation yields the same estimates for all scenarios so only the 1995–2000 series is used for the comparison.

[11] I am grateful to Shenggen Fan for raising this issue and to Nick Minot for helpful discussions and assistance in estimating these international benefits.

of total world rice imports (personal communication, M. Rosegrant using IFPRI IMPACT model). Hence, even more affluent countries participated significantly in the welfare gains from Viet Nam's increased role in the world rice trade.

The VASEM simulations in Tables 4 and 5 can be combined with net benefit ratios from the household survey data used in the IFPRI research to assess the impact on poverty in Viet Nam. Table 6 shows the number of people who move above or below the poverty line set at the income level equivalent to the 25th percentile in 1995. This was Dong 710,000 per capita per year (US$66) in 1992–93 terms. Overall the two policy changes are shown to have marginally increased the number of people falling below the poverty line. However, the increase represents less than 0.1% of the population. The marginal increase in poverty appears to result from the decline in international prices with increased exports from Vietnam in the model. This impacts adversely on the larger numbers of poor farm households offsetting the benefits to the smaller numbers of urban poor rice consumers. The conservative scenario on IFPRI's role suggests a small reduction in poverty, while the more optimistic scenario indicates a marginal worsening of poverty. The latter result is difficult to rationalise. Indeed these poverty results differ from those obtained by Goletti and Minot with earlier versions of VASEM (as explained in footnote 8 on p. 21).

The primary conclusion from this poverty analysis is that, in the short term, the policy interventions by the government of Viet Nam and IFPRI's role in them may have had a neutral effect on the numbers in absolute poverty in the short term, or at worst had a very small adverse effect. However, there may be long-term benefits to the poor through the contributions of these policies to economic growth and the now well-documented effect of this on poverty alleviation (Bruno et al., 1998; Deninger and Squire, 1996; Roemer and Gugerty, 1997; Dollar and Pritchett, 1998).

Conclusions

It is feasible to use as one measure of the impact of policy-oriented social science research (POSSR), the hastening of the process by which welfare-enhancing policy

Table 6
Effect of policy changes on numbers moving above or below poverty line in Viet Nam[a]

	1995	1996	1997	1998	1999	2000
				(thousands)		
Overall effect of policy changes	0	+46	+77	+63	+81	+66
Conservative estimate of IFPRI role	0	+46	−77	−24	−16	0
More optimistic estimate of IFPRI role	0	+46	+77	+134	0	+107

[a] A positive figure implies an increase in the number of people who fell below the fixed poverty line at the 25th percentile set in 1995. A negative figure implies a reduction in the number of people falling below the poverty line.

decisions are made. This approach provides an inherently conservative estimate of the economic impact of POSSR, as it is without prejudice to its possible added value in the design of the policies themselves. Partial equilibrium models, which provide estimates of the economic surplus gains from policy changes, can be combined with benefit–cost analysis to estimate the economic value of the time saved. In this sense the proposed framework represents a novel attempt to address the elusive issue of how to attribute policy decision outcomes and resultant economic impacts to specific POSSR projects or programmes. The framework is analogous to Bayesian decision theoretic approaches to valuing POSSR but avoids the complex task of eliciting prior and posterior distributions from decision makers. However it still requires extensive interviews with collaborators, stakeholders and decision makers to determine if and how the POSSR influenced policy decisions.

Experience with the case study used in the current paper suggests that there is scope to improve on the survey and interview techniques to better ensure objectivity. An independent evaluator of necessity has to rely on the policy researchers to understand the background to the research being assessed, how and with whom they conducted the study and communicated with the audience. However, to minimise the possibility of biased interview responses with collaborators and stakeholders, the policy researchers should not be present. Ideally translators also should not have had prior involvement in the project(s). Also structured questionnaires which allow frequency distributions to be elicited where possible can assist in interpretation of the responses. It should be recognised though that in asking about the influence of particular research on the policy processes, answers to structured questions often are not possible and only open ended approaches with qualitative responses are feasible. It remains an art rather than a science.

In the particular case of research on rice trade policy options conducted in Viet Nam using the suggested framework, extensive interviews with partners and stakeholders in the research clearly indicated that the time saving was a legitimate measure of the influence of the POSSR on decision making. Linking a spatial equilibrium model with income distribution analysis based on national household surveys, allowed IFPRI to satisfy policymakers that relaxing rice export quotas and internal trade restrictions on rice would not adversely impact on regional disparities and food security, and would have beneficial effects on farm prices and poverty. These were major concerns of policymakers prior to the research project. The research on these and other policy options gave a degree of confidence to policymakers that relaxing the controls would be in Viet Nam's national interest. They made these decisions earlier than would have been the case without the IFPRI research.

The relaxation of rice export quotas and internal restrictions on rice trade made by the Government of Viet Nam in 1995–97 are estimated to have had a present (1995) value to Viet Nam of $61 million using a 5% discount rate. If continued to 2000, this will rise to $222 million and to $966 million by 2020. For an incremental research investment of less than US$1 million, a conservative estimate of the benefit to Viet Nam of the POSSR contribution to the policy changes effected in Viet Nam from the reduction in the policy implementation lag indicates a present value in 1995 terms of US$45 million. This represents a benefit–cost ratio of 56. A more optimistic

assessment is that the present value is US$91 million with a benefit–cost ratio of 114. In addition to the welfare gains to Viet Nam, there were sizeable gains to the rest of the world from the POSSR. Inclusion of these benefits increases present value and benefit–cost estimates by 34–84%. Around 38% of the contribution of the research is estimated to have accrued to the rest of the world, as Viet Nam is now a major player in world rice trade.

These estimates of the value of the POSSR contribution do not include the benefits of training, capacity building, or the influence of the research itself on the type, quality and extent of the policy decisions. In other words, it is assumed the decisions would have occurred anyway, but much later. Nor do they include what dynamic efficiency gains may have been set in train as a result of the static efficiency gains estimated here. Freebairn (1997) suggests the former are usually much larger than the latter. To these extents it is contended that the total benefits from IFPRI's involvement are probably larger than measured here.

The estimation of the benefits from the policy changes in Viet Nam, and of the contribution of POSSR to them, rely on the same basic model that was used to provide the advice to Viet Nam in the first place. As Krugman (1997) and Timmer (1998) point out, there is hence circularity about this type of impact assessment. To avoid this ideally requires an independent assessment with new post-decision primary data and presumably a new model. The ideal will continue to be elusive and in its place the above estimates will have to suffice. It should be noted, however, that the model used in this ex post assessment in fact had a number of refinements that improve the precision of the estimates of economic surplus from the model used in the original study. The new estimates are much lower than those estimated earlier but would not change the nature of the policy advice that was given.

If one of the major benefits of policy research of the type evaluated here is to hasten the change of policies in welfare-enhancing directions and these impacts erode over time, does this imply that the optimal strategy for policy research institutions is to purposely identify short-run applied country policy projects rather than longer-run more basic studies that primarily add to the body of knowledge? This is not the appropriate inference. Rather the experience in Viet Nam suggests that there may be high value to the cultivation of long-run relationships with policymakers and professional peers in partner countries. In this process there may be scope for a sequential portfolio of policy-relevant research to be undertaken in response to derived demand, along with local capacity strengthening, such that at any point in time there will be a continuous benefit stream generated from the 'preponement' of many and varied policy decisions. At the same time, as this study shows, professional papers can emerge that not only add to the body of knowledge, but improve the quality of applied policy research and better inform future decisions. As Weber et al. (1988) point out, demand and supply constraints to local policy research are most effectively addressed when applied research, human capital formation and policy extension are conceptually and operationally treated as joint products.

The large benefits generated from this POSSR research with Viet Nam were no doubt partially due to a receptive policy environment. There was a momentum of change toward a more liberalised economy. To the extent that it is feasible, the

experience might suggest that, if potential impact is to be a major criterion in setting country priorities for policy research, explicit attention ought to be given to the revealed directions and speed of recent policy changes in candidate countries.

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