The Future of Rice in Asia: Public and Private Roles[1]

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ABSTRACT

The role of rice in Asia has evolved but remains central to pro-poor growth and food security. This article offers reflections based on decades of engagement with the region's rice economy, organized around six interlinked themes: rice research, rural infrastructure, structural transformation, price stabilization, social safety nets, and financial markets. While private actors now lead in many areas—particularly in marketing and supply chains—public roles remain critical in setting policy directions, investing in long-term research, and ensuring equity. The interaction between public and private sectors is shaping a new foundation for Asia's rice economy—one that demands coordination, adaptability, and political skill. Rice may no longer define the region's overall economy, but its significance for the poor, for nutrition, and for political stability remains strong. Strengthening this foundation will depend on how effectively both public and private roles are aligned to support inclusive, resilient growth.

1 This article had its origins in a set of comments that David Dawe presented during the live Zoom meeting to celebrate the 20th Anniversary of the Asian Journal of Agriculture and Development on 3 February 2025, held at the SEARCA Umali Auditorium, Los Baños, Laguna, Philippines. Dawe joined the meeting from Boston and Timmer presented his prepared remarks from Fort Myers, Florida. After a very kind set of comments from Dr. V. Bruce J. Tolentino, who worked often with Timmer after their first meeting in 1986, Dawe closed his comments with a set of questions about the future of the Asian rice economy. There was not enough time to answer these questions properly during the live event, and Dr. Cielito F. Habito, the editor of AJAD, agreed that the two of us should write up our thoughts for possible publication in the journal. This article is the result.

Keywords: rice economy, pro-poor growth, Asia, rice price stabilization, public-private partnership, structural transformation, food security, rice research
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INTRODUCTION

This short article is based on "informed opinion." These personal reflections of the two authors draw on decades of involvement as policy analysts and advisors with extensive experience following the rice economy in Asia. The bibliography reflects recent publications from both authors. A much broader and deeper bibliography is available in Glenn Denning's recent book, which Timmer (2023) reviewed in the journal *The Developing Economies* (see Bibliography).

With one exception, we do not cite references for each of the points we make. The interested reader is referred to the Bibliography for more details. When it is helpful, we provide guidance on where to look.

Because we believe that pro-poor growth is the overarching objective of late-developing societies seeking to escape from deep poverty, we emphasize it in this introduction. Pro-poor economic growth is a clear objective, standing alone. But in many circumstances, it is also an input to other goals. In particular, economic growth that reaches poor households makes them healthier and more productive, able to invest in their own human capital and, especially, that of their children. Educated children find it easier to find skilled jobs in urban areas, thus speeding up the structural transformation. As society's leading objective, most of the other topics discussed below can be considered as inputs, valuable in themselves in most cases, but doubly valuable when they also stimulate pro-poor growth. Timmer's 2004 article on Indonesia's experience with pro-poor growth from a regional perspective is a useful introduction to the literature (see Bibliography).

The following discussion is divided into six main headings: (1) Rice Research, (2) Rural Infrastructure, (3) Managing the Structural Transformation, (4) Managing Rice Price Stabilization, (5) Social Safety Nets, and (6) Financial Markets. Each heading topic could easily be a separate article, or even a book, but the goal here is to highlight the key issues and how they are interconnected.

A Conclusion reflects on the lessons learned, drawing on both historical experience as well as the specific discussions presented in the article. Acknowledgments appear after the Bibliography.

RICE RESEARCH

As western countries withdraw from funding global public goods, Asian countries will need to "step up" and invest financial and human capital to maintain the economic and ecological sustainability of rice production in the region. There are important externalities to justify public investments significantly larger than what the private sector would find profitable on the basis of market prices. A substantial literature on this topic is summarized in the Asia Society/IRRI Task Force Report (2010) in the Bibliography.

Simply because of size and self-interest, India and China will need to take the lead on the public funding for rice research, but major importing countries will also want to contribute significantly. In fact, as the world's largest rice exporter, India has a potential conflict of interest in raising rice yields and production—it could lead to lower export prices. But cheaper rice domestically in India would also lower the costs of providing food grain assistance in kind to "below poverty line (BPL)" recipients, as well as to other beneficiaries of public grain distribution.

China is typically a net importer and maintains its domestic rice price well above normal world prices. Increasing domestic production significantly by raising domestic prices even further would make rice price protection more visible and expensive (at least in economic, if not budget, terms). On the other hand, increasing domestic production through increased productivity made possible by agricultural research would increase the self-sufficiency ratio, and in the eyes of many Chinese officials, the country's food security. Other importing countries such as Indonesia, the Philippines, Malaysia, Brunei, and Singapore have similar self-interests and should all contribute to funding public rice research in the region.

Public funding is important because rice is mostly a self-pollinated crop and the genetic traits in an improved variety are easy for individual farmers to capture by simply saving some seed from one harvest to the next. Seeds of hybrid varieties, of which there are several grown in China and a few in other countries, must be purchased each planting season. The hybrid seed industry for most cereal crops is almost entirely an activity controlled by large commercial firms, and they have been highly aggressive in protecting their profit margins.

Actual rice research *activities* should be located where the best scientists are, with good research infrastructure. Naturally, countries that make a major contribution to funding rice research will want to participate in carrying it out. This is a desirable outcome because it diversifies the agronomic conditions under which new rice varieties are developed, an important benefit in an era of rapid climate change.

In addition to research on rice grown as a monoculture, research is also needed on cropping systems that integrate additional crops in a rotation. Rice-wheat rotations are widely practiced in the Indian subcontinent, and rice-corn rotations are sometimes used in Southeast Asia. As demand grows throughout Asia for additional fruit and vegetable consumption, cropping systems that alternate rice with a variety of vegetables and some annual fruits, such as eggplant, tomatoes, chilis, and watermelon, are likely to be highly profitable if appropriate crop varieties are developed at local research stations and local supply chains integrate these crops into their procurement plans.

RURAL INFRASTRUCTURE

Neither author is an authority on rural infrastructure, but the provision of farm-to-market roads, rural electrification, and irrigation facilities and maintenance relies almost exclusively on public funds. At the same time, modern telecommunication networks using cell phones have brought a significant private role into play. Similarly, cheap solar panels with small backup batteries offer rural households far from a national or regional power grid the opportunity to have electricity for lighting and communications. Public education can also provide opportunities for younger generations to incorporate digital technologies into the production process.

Historically, public investments in rural infrastructure have increased the yield of rice and the stability of total rice production. At the same time, reliable and cheap market connections for purchasing farm inputs and household consumer items have raised productivity and the welfare of household members. Appropriate rural infrastructure is a major input into pro-poor growth.

MANAGING THE STRUCTURAL TRANSFORMATION

A fundamental prerequisite for a successful structural transformation is rising labor productivity in agriculture. Mechanization will be needed to accomplish this, but increasing labor productivity in rice cultivation is often challenging technologically. Solving these challenges probably means a significant increase in cultivated rice area per worker. There are a number of institutional mechanisms that can be used to facilitate this increase, including private expansion of farmland owned, land rental markets, community-coordinated cropping systems, and machinery rental services. Integrated biophysical and socioeconomic research should be a high priority to determine which of these mechanisms is most appropriate in any given context. Highly specialized machinery for handling the various tasks of rice farming on relatively small plots has been developed in Japan and is beginning to be available in China. Locally produced versions are being developed in Southeast Asian rice producing countries.

On the demand side, the pace of structural transformation depends to a large extent on how rapidly rice consumption declines per

capita. Compared to the earlier projections by Timmer, Block, and Dawe (TBD) (2010), rice consumption seems to be declining more slowly than expected, especially in Southeast Asia. In this region, rice prices have been higher than normal because trade barriers are used to protect domestic rice farmers in importing countries such as the Philippines, Indonesia, and Malaysia. In exporting countries such as Thailand, Vietnam, Cambodia, and Myanmar, domestic rice prices follow world prices closely, and these have been relatively high since the 2007/08 world rice crisis.

Throughout Asia, rice is an "inferior good" in economist's terminology, which means that consumption falls when incomes rise, holding all else constant. Rice has become the basic food of the region's poor. With rapid economic growth in Asia, rice consumption should be declining rapidly. The slow decline might then reflect what could be called the TBD Paradox, which is a political economy variation of Giffen's Paradox, where price increases for potatoes in Ireland were thought to *increase* demand for potatoes because the real income of poor Irish households fell so much, they consumed more of the inferior good, although it was more expensive. In fact, Giffen behavior for rice has been demonstrated for a substantial segment of the population in China.[2] This mechanism, when applied to rice consumption in Southeast Asia, would imply that high rice prices are impoverishing the poorest population, who consume larger quantities of rice (and less healthy diets) in response to the policy-induced higher prices.

Analysis of changing per capita rice consumption is becoming more difficult because of the rapid rise in food prepared away from home, and to the best of our knowledge the main national expenditure surveys do not collect specific food quantities on meals prepared away from home. New surveys will need to be conducted if serious analysis on this topic is to be carried out. Relying more on food balance sheets is a possibility, although those have many problems, largely stemming from their reliance on nationally reported commodity production levels. These national statistics often overstate the growth of politically important commodities, especially rice.

The politics of managing structural transformation will likely be more difficult in Asian countries than in the Americas, Australia, and Europe, due to the small farm sizes in Asia. Many small farms, relative to an alternative distribution of a few large farms, mean more rice farmers, and many of these farmers will resist diversifying into riskier crops (irrigated rice production is very stable, as are rice prices). Even if the political system does not represent these farmers in fair elections, their voices can be heard in protests and, in extreme cases, via a quiet withdrawal from producing rice for the market.

MANAGING RICE PRICE STABILIZATION IN A RAPIDLY CHANGING WORLD

In some sense, this entire article is about the debate over public versus private roles in stabilizing rice prices. We assume that readers have access to the articles by Dawe (2024) and Timmer (2024) in the Special Issue noted in the Bibliography. Accordingly, we will not summarize the arguments that are readily available in that issue.

At the country level, relatively open trade with the world rice market significantly lowers the cost of stabilizing rice prices. The primary issue is not the widely touted gains to free trade, which are illusory in the real world of behavioral economics, where loss aversion, framing effects, and herd behavior dominate consumer decision-making, especially with respect to a commodity such as rice, which is storable by all participants

2 This real-world example is important because it documents the argument in a way the Irish example cannot. No detailed microdata are available to test with econometric modelling Parson Giffen's observation about Irish potato consumption. The Chinese example is documented in Robert T. Jensen and Nolan H. Miller. 2008. "Giffen Behavior: Theory and Evidence." *American Economic Review* 98(4): 1553–77.

along the supply chain, from farmers to traders to consumers. What is important are the *determinates of confidence* on the part of food policy decision-makers to actually use the international market as an integral part of their stabilization strategy. Several of the "milestone" papers in Timmer's article (2024) in the 20th Anniversary Issue of the Asian Journal of *Agriculture and Development* address this theme directly.

Still, the historical lessons in both the Dawe (2024) and Timmer (2024) articles are being seriously challenged by rapidly changing institutional arrangements in Asia's rice economy. The changes are most visible in the emergence of modern supermarkets throughout Asia, although these changes are most dramatic, and revealing, in China.

Modern supply chains for rice are now fundamentally different from those of a generation ago. Public policies have both encouraged and tried to slow down the "supermarket revolution," but private sector actors now totally dominate Asia's rice marketing, from input supplies to production and marketing decisions to final presentation to consumers in retail outlets. As a note of thanks, the entire profession owes a big debt to Tom Reardon and his colleagues (Timmer is one among many) for identifying very early on the revolutionary changes going on in food marketing, and for marshalling the financial and intellectual resources to document and explain the "supermarket revolution".

These institutional changes in food marketing, now widespread throughout Asia, offer a new approach to rice price stabilization. Timmer has long argued that rice price stability was a *public* good, not available for rice consumers to "buy" in local, private markets. To get stable rice prices, consumers had to resort to the public arena, where stabilization policies could be designed and implemented. This perspective is probably no longer true. The importance of publicly owned rice reserves is now challenged by the new reality of private supply chains for rice that control a large majority of the rice available to rice consumers. Public control of rice reserves was a topic stressed in all seven of Timmer's "milestones" in learning how to stabilize rice prices, and why, even if day-to-day management could be contracted to private firms.

New questions arise from these institutional changes. Do rice reserves within a country need to be owned and managed by a public agency, or can private agents manage the physical logistics, with a public "call" on these reserves? Singapore has long used this approach, only allowing licenses to import rice to local distributors if they agree to hold a three-month supply.

Can rice price stability become a "private good" if supermarkets become large enough that they are able to backward integrate into large milling and storage facilities? If so, these supermarket chains can offer "stable rice prices" as an inducement to their customers because they control their rice supplies. The answer is now clear. Rice price stability can be a private good because it already is happening in China. Supermarket chains openly advertise their ability to keep rice prices stable in order to retain existing customers and appeal to new ones. This is a deep and fundamental change in how we think about food security.

Because of these revolutionary changes in rice supply chains, it is tempting to ignore the decades-old initiative from the Association of Southeast Asian (ASEAN) Plus Three (Japan, Korea, and China) Emergency Rice Reserve (APTERR). The terms of the agreement specifically rule out using the reserves to stabilize rice prices. They are meant to be used in a "physical emergency," such as a tsunami. In fact, most of the reserves are "virtual," i.e., they are not actually held in separate warehouses but are simply "dedicated" in the national grain reserves of member countries.

Still, APTERR serves a very useful function. Even without actual trade flows, it provides an institutional home for confidence-building discussions. Twice a year, the heads of state of the ASEAN countries hold meetings where regional food security, and especially the outlook for rice prices, are on the agenda every time. These meetings usually have observers from the "plus

three" countries. After India imposed rice export restrictions in July 2023, ASEAN leaders agreed to keep agricultural trade flowing and not use "unjustified" trade barriers. An important result of these meetings is that world rice prices have become more stable than the prices of wheat and corn, a reversal of decades-long historical patterns. The details of this transformation are documented in Dawe's (2024) contribution to the 20th Anniversary Special Issue of *AJAD*.

SOCIAL SAFETY NETS AS AN ALTERNATIVE TO STABLE RICE PRICES FOR CONSUMERS

Economists have long argued that targeted social safety nets are more efficient than stabilizing rice prices for all consumers. Such lump sum transfers are now feasible technologically using prepaid bank cards and are increasingly used in Southeast Asian countries as a mechanism for poverty reduction. But both the technology and the bureaucratic capacity to change the amount of payment in response to sudden changes in rice prices are severely lacking in all countries. It is hard to justify major investments in building such capacity when these adjustments would only be needed sporadically.

There is also an esoteric literature on whether lump sum transfers have a significant impact on work incentives. Although this literature tends to find that there is little impact, it still seems likely that the impact in the real world will be a function of the size of the transfers—if the transfers get large enough there is likely to be some effect. In such an event, some price stabilization is likely to be needed just to avoid huge lump sum transfers when a sharp spike happens in rice prices. Even the US has a strategic oil reserve.

FINANCIAL MARKETS AS A TOOL FOR RICE PRODUCERS TO STABILIZE THEIR INCOMES

Both authors worry about creating a market that lowers the transaction costs of large-scale financial speculation in rice markets through futures markets and their derivatives. It seems that policymakers have these concerns as well, e.g., India shuts down its rice futures market quite frequently. Perhaps equally of concern is the critical issue of the time horizon of existing futures markets and their derivatives. No derivatives exist that guarantee the rice price (for any grade or variety) 10 years into the future.

In any event, Asian rice futures markets have not gained traction even when they do exist. A contract for Thai 5% brokens on the Chicago Mercantile Exchange has not generated much interest. Thailand had a rice futures contract for many years, but trading was sporadic, and the market was eventually shuttered. It seems likely that risk management for rice prices will need to come from other approaches.

CONCLUDING OBSERVATIONS

In exasperation at the plethora of books, articles, and opinion pieces on how to end hunger after the 2007/08 world food crisis, Timmer published *Food Security and Scarcity: Why Ending Hunger Is So Hard* in 2015. The basic argument was that "markets have to do the heavy lifting," but even efficient, private markets alone could not end poverty and hunger. An active public role was equally important, and it took several chapters to explain what that complex role was. It was almost always "site specific," and highly trained analysts were needed in a variety of government ministries and agencies to understand, design, and implement that role.

This conclusion does not try to summarize such a complicated story. Rather, our goal is to highlight both the tensions and the synergies between the public and private roles in the modern Asian rice economy. Asia has experienced nearly half a century of rapid economic growth,

unprecedented in human history. This growth has led to structural transformation of the Asian economies, and with that transformation the importance of rice to the overall economy has declined substantially. It is no longer the "barometer" of the economy, as it was in Indonesia in the 1960s.

But rice is not going away anytime soon. In most Asian countries, it remains the most widely planted crop, and it is also the biggest user of water. It remains, by far, the single most important source of dietary energy throughout the region, especially for the poor. Unstable rice prices affect the health of young children and human capital formation, as a much-cited article by Steven Block and multiple co-authors (2004) demonstrates emphatically. Perhaps most importantly, rice still dominates public discourse, especially when prices are changing sharply, either up or down. It is no exaggeration to conclude with the observation that rice remains the most important foundation for pro-poor growth in Asia.

Building on this foundation will be the challenge going forward because it rests firmly on both public and private pillars. At best, these pillars reinforce each other, making the overall foundation stronger than if it depended on one or the other alone. But they can also clash, especially in a world where political divisions are wide and sometimes violent.

Managing the role of rice in Asia in this world will require considerable dexterity and political skill. At best, the debate will be informed by dispassionate technical expertise, using the best data available. At worst, it can degenerate into shouting matches and political standoffs. In the end, the role of the private sector is likely to become more significant in several respects, for example, in international trade, some highly specialized rice research, and in the design and construction of rural infrastructure. But the public sector will still need to control the "commanding heights," where it sets the policy parameters that send critical signals to all players in private markets. The "macro prices" in all economies—interest rates, foreign exchange rates, energy prices, and the rural-urban terms of trade (think "rice prices" in Asia)—are influenced by *both* private and public actions. The public sector in all countries will need to step up visibly and competently to provide these essential actions in order for pro-poor growth in Asia to be as rapid as possible. The private sector will be more efficient, and prosperous, if they do.

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COMMENT

R.M. Briones' Comment on "The Future of Rice in Asia: Public and Private Roles"

■ David Dawe and C. Peter Timmer

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This is a thoughtful meditation by two renowned experts on the future of rice in Asia. All the themes covered are salient and skillfully tackled. However, such an ambitious title invites comments about this or that topic that the reviewer would like to be covered—colliding, perhaps, with the authors' view of what to emphasize and prioritize. Nonetheless, may I introduce my own biases on what themes are worthy of discussion, and how:

Structural transformation. The supply side of structural transformation (pp 3–4) discusses labor productivity and land consolidation. A broader aspect of transformation is diversifying into greater value adding, while still maintaining strong vertical linkages, i.e., from farming to agrifood systems. This phenomenon was briefly discussed under supermarkets and the like, in relation to modern price stabilization. However, the phenomenon may need further elaboration on its own terms, concerning quality shifts, diversification into processing and modern retail, and the implications of such changes.

Price stabilization. The argument for a market-based, publicly-driven stabilization is basically sound. While the rationale for public intervention was relegated to a citation, perhaps explicit discussion is warranted, especially on the political stability argument. This, I think, is more relevant to emerging economies of Asia, rather than welfare arguments that are more suitable for

lower income, subsistence-oriented economies. Moreover, the authors seem to overestimate the scope of market-based stabilization by modern supermarkets. I disagree that supermarkets stabilize because they control supplies. Rather, their behavior is characterized by price stickiness due to coordination failures (and similar arguments in the relevant New Keynesia literature). As such, there will be severe enough shocks that will prevent them from managing price instability, even if it may be socially worthwhile to do so from a political economy perspective.

Resource scarcity and climate change. Surely the biophysical challenge faced by rice production should be a prominent element in discussing the future of rice. There are allusions here and there in the discussion of rice research, and in the concluding section. But I think this theme deserves to be highlighted, including how the rice industry should adapt to climate change, water scarcity, and deteriorating soil health - and how rice industry can mitigate its own footprint on these current and future risks to sustainability.

COMMENT

L.C.Y. Wong's Comment on "The Future of Rice in Asia: Public and Private Roles"

■ David Dawe and C. Peter Timmer

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The authors have managed to distill some key elements and dimensions and shared their collective insights in a lucid and frank manner—including in some key areas where their thinking has morphed with the changing times and ecosystems—in the course of their involvement in the highest-level rice policy analyses and advisory work in many parts of Asia.

In their unique and strategic manner, I sense that their underlying intention is to provide some broad strokes on the canvas for others (especially those associated with AJAD and SEARCA[1]) to add to and build on, and consider other elements or aspects and grow into something more substantive and holistic to guide the "future of rice in Asia," while tracking and underscoring the potential transformative roles of the public and private sectors, moving forward.

Consequently, being one of the few who straddle the public, private, think tank, and international development agency aspects of rice supply and value chains and international trading networks, my comments and suggestions will be from a practitioner's perspective—drawn from realities in the field and initiatives that have been considered and tried by the private sector (largely,

1 SEARCA (Southeast Asian Regional Center for Graduate Study and Research in Agriculture) publishes AJAD (Asian Journal of Agriculture and Development).

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but not solely, from my experiences in Malaysia, Myanmar, and further afield).

As "the times they are a-changin'," what would the future of rice in Asia be like? And how would it be shaped with the recent trends of the merging of technology (some of which are already happening in agriculture, though not necessarily in rice); digital agricultural technology; big data analytics; artifial intelligence (AI); and the reshaping of trading arrangements and alliances; as well as reshaping of economic geography via cross-border corridors to something that has always been there—border trade—both official or unofficial (smuggling), innovative countertrade arrangements to by-pass somewhat the dominance of US Dollar (USD) in transactions as well as cushion the impact of USD exchange rate fluctuations. In short, in keeping up with the vastly changing context of technology, trade, policy, and geopolitics.

At the outset, it is worth recalling Tom Slayton's mantra of "Rice is not rice, is not rice." There are wide variations in the FOB or CIF[2] prices of different types of rice (for example, normal white rice, japonica, basmati, fragrant, and glutinous rice) and the grades within (5%, 10%, 15%). Also to consider is their country of origin (and at different times of the year), and the wholesale and retail prices in different states or provinces of a country. These would tend to render data generation and formulation of (and subsequent on-course corrections to) domestic rice price stabilization schemes and attendant monitoring and evaluation very hard.

It is also prudent to consider the "rice industry and rice trade and marketing unplugged," especially from the perspective of the private sector, as well as highlighting the need to move away from the hitherto supply-driven and production-centric stance toward a more balanced and more holistic one incorporating demand-driven considerations. This brings into play dimensions of demographic, nutrition, diet, and health considerations within the framework of value chains and trading networks, emphasizing value adding and multiple end-uses. Illustrative of this shift are Malaysia, a consistent rice importing country that have effectively elected to be a net importer of rice, leveraging on its small open economy and large trading nation status; as well as Myanmar, Asia's forgotten "rice bowl" with the potential to "feed the future."

Looking to the future, big data analytics, AI, 6G and satellite connection capabilities with smartphones, increasingly better targeted social safety nets, and innovative approaches involving the private sector (under some kind of P-P-P arrangements) may serve rice importing and exporting countries better and better.

It should also be noted that a key silver lining and lesson from the COVID-19 pandemic is that those nations that have recovered well and built back better (including Malaysia) are those that responded as a nation (whole of society), often involving some form of public-private-people(community) partnership (P-P-P-P) arrangements. This has proven that it can be done. There is also the lesson that "bubbles" can be formed to facilitate travel and trade. This idea can also be extended to and built upon for other dimensions in the future.

Despite increasing emphasis of private sector-led initiatives and various forms of public-private partnership (PPP) modalities (facilitated by governments), received literature overtly focus on "why do governments do what they do," but very little on "why do the private sector do what they do," or what motivates them. I have encountered many benign business entities and have found that the natural instinct of many Asian businessmen is cooperation over head-on competition (where winner takes all). They are generally open to strategic alliances, joint ventures (JVs) (including a precursor arrangement like "JV-at-the-door"[3]),

2 International trade terms used in shipping and pricing; international commercial terms that affect how rice prices are compared across markets: FOB - free on board; CIF - cost, insurance, and freight.

3 A junior partner trying to enter a market

especially if it is demonstrated to benefit not only the parties involved but also their respective countries. This leads us to consider some potential role of the private sector drawing from anecdotal evidence and ideas that practitioners have mulled over.

Counter trade. BERNAS[4] counter traded milling equipment and machinery to upgrade MAPT mills[5] against Myanmar rice. This led to BERNAS being the largest rice exporter of over 200,000 metric tons (t) from Myanmar in 2001. Yet, only 35,000 t ended up being exported to Malaysia, while the balance was exported to Indonesia, Bangladesh, and Sri Lanka, leveraging on the trading networks of its subsidiaries and JVs in rice exporting companies in Thailand and Pakistan.[6]

Incidentally, the exporter's margins from the Thailand and Pakistan JVs that basically enabled BERNAS to absorb the price pass-through of strategic types and grades of rice for over six months during the Asian Financial Crisis. When there was a sharp realignment of USD and Asian currencies, Malaysia averted the political backlash of sky rocketing prices experienced by other ASEAN countries like Indonesia and the Philippines.[7]

BERNAS also countertraded Malaysian palm oil against rice with COFCO[8] of China

Off-shore storage. This idea was mulled over by associates in Myanmar as it had the propensity of turning rice stockpiling from a normal cost center for rice importing countries, on account of quality and quantity losses, to a profit center through innovative trading arrangements leveraging on strategic trading networks. Unfortunately, this was not followed through on account of the 2021 coup.

Border trade. This is expected to increase significantly into the future, especially in continental Asia, involving rice supplied to China to meet it's domestic needs as well as those served by the Belt and Road Initiative. This is coupled with cross-border economic corridors and the consequential reshaping of geography and trading networks into the future.

Relatedly, imagine the dampener on established analytical framework and analytics should rice trade no longer be solely denominated in US Dollar and the rise in the adoption of Digital RMB[9] coupled with higher percentage of imports being border trade with significant increases of rice flows from Asian/ASEAN countries having land borders with China.

Lastly, as an adjunct to the Dawe and Timmer article coupled with the individually authored articles in last year's AJAD Special 20th Anniversary issue plus the hybrid knowledge event held on 3 February 2025 at the SEARCA Umali Auditorium where both the authors spoke coupled with related articles that have appeared in AJAD and SEARCA knowledge events and publications, it is hoped that AJAD and/or SEARCA can build on all these

4 *Padiberas Nasional Berhad* (BERNAS) is Malaysia's state trading enterprise responsible for stabilizing the domestic rice market and ensuring national food security by importing rice under government policy.

5 MAPT - Myanmar Agricultural Produce Trading; state enterprise under Myanmar's Ministry of Commerce. MAPT mills are government-operated rice mills.

6 These JVs provided BERNAS a learning platform for the intricacies of international rice trade and means of striking strategic cooperation between exporters and importers.

7 This underscores the effect and importance of exchange rate fluctuations against USD in which all rice are quoted FOB. Notice that during the Asian Financial crisis of 1997/98 the FOB price of rice was relatively stable but domestic prices skyrocketed in Indonesia and The Philippines, creating some civil unrest. Malaysia would have too. if not for private sector, BERNAS in this case, holding back the price pass through of certain grades of imported white rice (from Thailand and Pakistan) while allowing the prices of better types and grades of rice to pass through, in the interest of the nation.

8 China National Cereals, Oils, and Foodstuffs Corporation

9 Also called e-CNY, digital yuan, or digital renminbi, RMB is China's central bank digital currency—a digital version of China's official currency, issued and regulated by the People's Bank of China.

and make the necessary arrangements to come up with either a special edition of AJAD and/or a book by SEARCA on the "Future of Rice in Asia" and the transforming public and private roles and other emerging dimensions in relation to the vastly changing context of technology, trade, policy, and geopolitics.

Rejoinder to the Comments on "The Future of Rice in Asia: Public and Private Roles"

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It is slightly awkward to respond to comments from distinguished scholars and policy analysts that we know well. Over the years, we have both learned a lot from them. It is no surprise, then, that these comments by Roehl Briones and Larry Wong add important perspectives to the article we have written. Understandably, they both politely ignore our plea that each section of our paper could easily be a full paper or even a book. Both sets of comments basically request that we substantially expand the existing paper. We take that as a compliment but will restrict our response to the specific points raised. The two comments are quite different, so we examine them in order.

ON BRIONES' COMMENTS

Briones presents three sharp analytical critiques, and each requires a specific response: (1) on structural transformation and the need to incorporate a demand and value-chain perspective to the traditional supply side analysis; (2) on price stabilization and the need to be clear on the rationale for public engagement in this complicated and contentious issue; and (3) on resource scarcity and climate change, and his complaint that we do not give nearly enough attention to how hard it will be to sustain productivity growth in Asian rice cultivation under likely future climate scenarios.

Well yes. All three issues require the profession to re-think the received wisdom on the topics from just a decade ago. Briones recognizes that Dawe and Timmer have been actively engaged in this re-thinking, both individually and in joint articles and chapters.

The structural transformation has become a much more complex historical process than early experience revealed in the development of Western Europe and its New World offshoots. Briones is right to emphasize that this complexity extends far beyond the emergence of supermarkets, with their efficient backward supply chains and their highly sophisticated consumer marketing. It is also important to emphasize consumer demand for dietary diversification, how this drives the supply side of structural transformation, and the importance of policies that make healthy diets more affordable and thereby promote the formation of human capital, a key ingredient in modern economic development. Research on these topics is ongoing.

The critique of rice price stabilization and its economic and political rationale is also well taken. Although even the basic 1989 article by Timmer explaining the rationale for stabilizing food prices argued that its rationale would change over the course of economic development, it is clear that the political rationale now dominates any remaining economic rationale for active government investments in stabilizing domestic rice prices. That, however, is not a reason for abandoning price stability as a policy goal. Still, it is very important that the economic development profession understands this transition.

Briones' comment on the importance of resource scarcity and climate change has become much more important now that the Trump administration in the US is actively resisting all efforts to slow climate change and its impact on agriculture and beyond, and has withdrawn the US from any engagement in international research activities. Our article noted the withdrawal of many western governments from funding international public goods, especially agricultural research. We urged Asian governments to work together on a funding plan and a research strategy. But our reliance on the joint IRRI[1]/Asia Society Task Force Report for insights and guidance is clearly dated.

ON WONG'S COMMENTS

Wong's comments contrast almost completely with Briones', mostly because Wong draws on his long experience as a practitioner and explores the "realities in the field" and what seem to be promising initiatives by the private sector. His lengthy text deserves careful reading because many intriguing nuggets of wisdom are dropped into his story. We discuss the text more or less in the order it is written.

Wong's description of the intent of our short article is correct. He uses that introduction to explain his own approach, drawing on "the times they are a-changin" refrain to highlight technological revolutions, innovative trading arrangements for rice, and the risks of relying on the US dollar (USD) to value the rice being priced and traded.

Wong makes pointed emphasis to how diverse rice actually is as a commodity. He quotes Tom Slayton, our mutual friend and colleague, whose mantra was "Rice is not rice, is not rice." From a trader's perspective, from a breeder's perspective, from a farmer's perspective, and from a government official's perspective charged with stabilizing the price of rice, that is correct. But from a nutritional perspective, it is irrelevant. The important nutritional distinction for rice is how it is milled; the more bran that is left on, the more nutritious is the cooked grain. The distinction between long-grain and short-grain, japonica or indica, and country of origin is largely irrelevant. Furthermore, within a given country, one or the other of these rice types (indica, japonica, glutinous) usually dominates the domestic rice

1 International Rice Research Institute

economy, and the prices of the different qualities (as measured by the percentage of brokens) for each of the different types move largely in tandem. We make this point at length because whose viewpoint matters on important issues depends fundamentally on their perspective on the commodity.

The perspective of a public policymaker is, and probably should be, quite different from the perspective of a private sector participant in the rice economy. Making public-private partnerships "work" is a dicey business precisely because of the potential conflicts of interest. Having said that, as Wong points out, such partnerships have flourished in the most successful countries in East and Southeast Asia and the entire development community can learn a lot from understanding both the process of creating them and their impact on the economy (and what happens when they blow up).

Wong is on very solid ground when his comments are based on his own personal experiences over many years; he knows whereof he speaks. By necessity, those are backward-looking lessons. When Wong ventures into what the future might hold, his footing is less secure. A lot of buzzy concepts are floating around—"big data analytics, AI, 6G, and satellite connection capabilities with smartphones…" Wong seems to think that these will enable better private-public partnerships (PPP). His experience is that Asian businessmen are "generally open to strategic alliances, joint ventures…" Wong argues this is a good thing because it encourages the kinds of activities that he describes in some detail. These include:

- ***Counter trade***, using as an example the Malaysian rice agency (BERNAS) and its activities especially during the Asian Financial Crisis in 1998, as well as activities in Myanmar;
- ***Off-shore storage***, an idea to use storage facilities in Myanmar to hold rice destined mostly for Malaysia; and
- ***Border trade***, which Wong expects to increase rapidly, especially with China. It has the advantage of low transportation costs and minimal exposure to foreign exchange risks, increasingly focused on the role of a weak USD.

These examples illustrate the dangers of intellectual capital becoming outdated or irrelevant. Timmer feels this particularly acutely because the intellectual capital he gained through the 30+ years of helping BULOG, the Indonesian rice logistics agency charged with stabilizing domestic rice prices, is now useless, except to economic historians. Wong's intellectual capital gained while working with a market-oriented, reform-driven Myanmar government in the early 2000s is now irrelevant in the face of the Chinese-dominated, junta-governed reality. Again, there are interesting lessons for economic historians, but probably not for current policymakers.

In closing, Wong makes a welcome plea for AJAD and SEARCA to build on all the recent activities around the Asian rice economy and to arrange for a major research effort to solidify and extend that knowledge into a book and set of policy guidelines on "The Future of Rice in Asia." We enthusiastically support that suggestion.