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BOOK REVIEWS

The Political Economy of Agricultural Protection. By KYM ANDERSON and YUJIRO HAYAMI. (Allen and Unwin, Sydney, 1986.) Pp. 185, ISBN 0 86861 992 2.

In July, 1986, P. P. McGuinness, writing in the *Australian Financial Review*, argued that:

> The impact of the agricultural policies of Europe and the U.S. means that the future of world trade in agricultural produce is radically different from the past pattern. Specialist export producers of food, like Australia, New Zealand or Argentina, are finished in this traditional role (McGuinness 1986).

Journalistic hyperbole surely? That was the initial reaction of this reviewer, and doubtless of other economists imbued with the notions of comparative advantage and economic rationality. However, after reading Anderson and Hayami's book on agricultural protection in industrial countries, one is less sure that McGuinness is wrong. Anderson and Hayami (and McGuinness) allow for the nature of collective choice processes in modern industrial countries. When this is done, the future for food exporters like Australia seems considerably bleaker.

The Political Economy of Agricultural Protection comprises an introduction and nine chapters written by a total of eight authors. The subject of the book is the extent, causes and effects of agricultural protection in Japan, Korea and Taiwan, including its historical origins and comparison of agricultural protection in East Asia with that in other industrial countries. The book is a product of research undertaken at the Australian National University and Tokyo Metropolitan University between 1980 and 1985. Some chapters, and parts of others, have previously been published as journal articles.

In their introduction, Anderson and Hayami note cross-country evidence which suggests that protection of agriculture increases with economic growth and with the decline in a country's comparative advantage in agriculture. They propose three explanations for this phenomenon, all originating from the changing roles of agriculture and food products as the economy grows, and all dependent on a calculus involving the political benefits and costs of extra agricultural protection. First, the decreasing importance of food costs in household budgets as incomes grow ensures that political pressure for low food prices diminishes with economic growth. Second, shrinking agricultural production and employment lower the political costs of given levels of agricultural protection. Third, loss of agricultural comparative advantage leads to food importing which facilitates covert protection using import controls and the justification of protection on food security grounds. The political significance of these changes is reinforced by the fact that changes in sectoral employment progressively increase the costs of

collective action for urban consumers and decrease such costs for agricultural interests.

Chapter 1 sets the stage for the descriptive and analytical material to follow, describing economic growth and structural change in Japan, Korea and Taiwan, and setting out the political economy model of agricultural policy making, outlined above. Chapter 2 describes changes in agricultural protection in the three countries from 1900 to 1980, and compares nominal rates of protection in East Asia between 1955 and 1980 with the corresponding rates in Europe, North America and Australasia. Levels of protection are found to have increased more rapidly in East Asia than in Europe. By 1980 agricultural protection in Japan and Korea was higher than in any European country except Switzerland, with Taiwan on a par with the next most protectionist Europeans, Sweden and Italy.

The nominal protection rates reported in Chapter 2 are based on calculations of agricultural protection levels for fifteen industrial countries and twelve agricultural commodities, described in detail in Appendix 1. This data set, compiled by five of the book's authors, is a significant contribution in its own right, and will provide a basis and standard for future international comparisons of agricultural protection.

Chapters 3 and 8 are best read together. Hayami's sketch of economic–political linkages in Chapter 3 is fleshed out in Chapter 8 by George and Saxon's account of Japanese electoral arrangements, the prevalence of part-time farms, the agricultural co-operative movement and the concern with food security. George and Saxon describe how these pro-protection factors have been balanced against the need for international competitiveness in manufacturing and budgetary considerations in the political determination of agricultural protection levels between 1947 and 1984.

Chapter 4, a previously unpublished paper by Honma and Hayami, is the analytical core of the book. Regression analysis is used to explain average levels of agricultural protection in fifteen industrial countries in six years between 1955 and 1980. The dependent variable is the nominal level of protection. The explanatory variables are agriculture's comparative advantage, its share of the total economy, the international terms of trade for agricultural products, and three regional and political dummies. The regressions explain about seventy per cent of the variation in protection levels, and the main explanatory variables all have statistically significant effects on protection. The results suggest that East Asia has rapidly adopted very high levels of agricultural protection not because it is different from other industrial countries but rather because of East Asia's rapid structural change and recent strong comparative disadvantage in agriculture.

The quantitiative analyses of agricultural protection in Chapters 5 to 7 have all been published previously and are less relevant to the main theme of the book. These chapters contain a stochastic simulation model of world grain and meat markets which is used to estimate the international impacts of East Asian agricultural protection, an analysis of the distributional and revenue effects of Japanese rice policies between 1965 and 1980, and an analysis of the distributional effects of liberalising Japanese and Korean beef import restrictions.

In the final chapter, Anderson and Hayami conclude that agricultural protection is unlikely to disappear as the agricultural sector shrinks. On the contrary, it will probably increase in East Asia and other protected economies and spread to less developed economies as they industrialise, as exemplified by the recent history of protection in Korea and Taiwan. They point out the great difficulty of changing protectionist policies once introduced, due to the capitalisation of the value of protection into the value of specific assets owned by farmers and agricultural distributors and suppliers, and into the salaries and perquisites of public officials who administer protection schemes. Thus they argue that agricultural exporting countries should closely monitor changes in comparative advantage in rapidly growing economies and bring anti-protectionist pressure to bear as soon as moves for protection of agriculture begin to develop. Writing before the 1986 GATT negotiations in Uruguay, they were not sanguine about the prospects of reducing agricultural protection in high-protection countries such as Japan.

This is the first book to attempt a systematic analysis of economic and political relationships between economic growth and levels of agricultural protection in industrial countries. For that reason, and because of its concentration on protection in Australia's fastest growing trade partners, *The Political Economy of Agricultural Protection* should be read by all those with a serious interest in Australian agricultural and trade policies. Its major contribution is the explicit recognition of collective choice processes as explanators of protection levels, and the presentation of detailed estimates of agricultural protection for a considerable number of countries, years and commodities, rather than the specific model of agricultural protection tested in Chapter 4.

The disappointment of the book is that Honma and Hayami's analysis in Chapter 4 does not satisfactorily test the collective choice hypotheses set out in the Introduction and Chapter 1. Collective choice is ultimately dependent on the costs and benefits perceived by individuals, including politicians. According to the logic of Chapters 1 and 8, such costs and benefits should include or be affected by individuals' profits and living costs under alternative protection regimes, their adjustment costs, their lobbying and voting costs, and the structure of the electoral process, among other things. Just how all these components of the individual calculus are reduced to the explanatory variables used in the regression analysis in Chapter 4 is not clear. What is clear is that any political strategy designed to change protection levels must operate on variables which are important to individuals, rather than on aggregate variables such as agriculture's relative share in the national economy. In addition to this general issue, if the model as specified is intended to account for agricultural industry pressure to change protection, shouldn't the dependent variable be the level of effective protection, not nominal protection? Also there is no consideration of possible lags in adjustment of the political process to changes in comparative advantage and agriculture's share.

When taken at face value rather than as an explicit collective choice model, Honma and Hayami's analysis must be interpreted with caution. They themselves mention several problems, including the possibility of simultaneous equation bias resulting from the effects of

protection on their explanatory variables (p. 43). They do not discuss the possibility of the regression estimates being affected by secular correlation between comparative advantage and agriculture's share.

An intriguing issue, raised by Hayami in Chapter 3 but not addressed further, is the role of Japanese land tenure regulations in impeding structural adjustment and thereby contributing to pressures for agricultural protection. Regulatory controls on the operational size of farms appear to have contributed to protectionist pressure in Japan in at least three ways: (a) by increasing part-time farming and hence increasing the number of voters whose portfolios are affected by the capitalisation of the value of protection into land values; (b) by restricting the expansion of more efficient farm operators; and (c) by restricting the achievement of economies of size gained by the use of modern farm machinery on larger farms. Research is needed to clarify the relationships between factor (especially land) market policies and agricultural protection level in industrial countries.

A few errors have escaped notice at the editing stage. For example, the Buchanan and Tulloch reference near the top of page 14 is wrong, as is the detail given on page 170 in the Bibliography; on page 51 the Appendix referred to should be Appendix 3, not 2; and the figures in the last row of Table 6.8 are added incorrectly.

Notwithstanding, the collective choice arguments and historical material set out in *The Political Economy of Agricultural Protection* provide a substantial logical basis for McGuinness' contention that specialist food exporting has a dim future. However the book does not satisfactorily test the proposed causal connections between political processes and agricultural protection. Nevertheless, it is an important contribution because of its much-needed emphasis on the collective choice processes underlying agricultural protection policies and the stimulus which it should provide for further analytical work in this area. It deserves to be read widely and should be assigned reading for all students studying Australian agricultural policy and trade policy.

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Reference

McGuinness, P. P. (1986), 'Agriculture is up the creek: world agriculture has changed forever', *Australian Financial Review*, 1, 14 and 31 July.

Linking Macroeconomic and Agricultural Policies for Adjustment with Growth: The Colombian Experience. By VINOD THOMAS. (Published for the World Bank by the Johns Hopkins University Press, Baltimore and London, 1985.) Pp. 252, ISBN 0 8018 3121 0.

Until the early 1980s the Colombian economy had experienced three decades of rapid growth in output and employment. In recent years growth has slowed markedly following both a downturn in the coffee sector (which accounts for about 4 per cent of Colombia's Gross Domestic Product) and a contraction in the growth rate of non-coffee exports. The result has been a steadily deteriorating current account deficit necessitating corrective policies at both the sectoral and macroeconomic level.

This book provides an account of a recent World Bank study of sectoral and macroeconomic policies followed by Colombia in recent years and the interrelationships of these policies. Economic policy options considered appropriate for growth and adjustment in Colombia for the mid-1980s and beyond given the changed economic circumstances, in particular the emergence of a severe balance-of-payments constraint and the expectation of bleak growth prospects for coffee, are discussed.

The book is in three parts. Part 1 considers the relationship between agricultural policy and macroeconomic performance. This part describes in considerable detail trade policies and strategies pursued over the past two decades, both with respect to export promotion and the complex regime of import regulation via licensing and other means. The discussion throughout these chapters covers a description of events specific to Colombia and the general economic consequences of economic policy instruments of the type used there.

Despite the ambitions implied in the title, this part of the book does not really develop a formal economic framework which would allow the quantitative significance between trade and/or industry policies applied at the commodity/sector level and macroeconomic performance to be determined. More could have been made of the pioneering work carried out by development economists at the World Bank and by others in establishing and implementing such frameworks for developing countries and applying them to the same set of policy issues which form the subject of the book.[1] Also more could have been made of previous studies which have quantified, by means of economy-wide models with sectoral detail, the links between sectoral policies and economic growth in developing countries some of which have been concerned specifically with Colombia.[2]

The policy conclusions from this part of the book appear to reflect a number of compromises. Amongst other things they advise (albeit temporary) policies of tariffs against competing imports (while even contemplating the expanded use of import licensing as a second best measure) together with nominal exchange rate depreciation to bring the real exchange rate back into equilibrium. There is scant recognition of the crucial role of wages policy in achieving the required adjustment of the real exchange rate, nor is there any acknowledgment of the very important effect receipts from the illegal drug trade have had in boosting Colombia's real exchange rate over the 1973–83 period.

The second part of the book, enttled 'Agricultural Price Policy', describes the range of government interventions in agriculture, the special problems posed by fluctuations in world agricultural commodity prices and the performance of the coffee sector, both technical and economic, given changes in prices and technology. There is an underlying theme that the economic costs of the myriad of import controls and price supports have been small (and that agricultural prices have not been unduly distorted during the last decade). These costs are not measured but it is suggested that gains from the liberalisation of trade, if measured within a general equilibrium framework, are likely to be significant. The discussion given to the coffee sector is extensive although there is not much analysis of the effects of the quite substantial implicit export tax on coffee on the coffee sector itself and on the performance of other sectors and the macroeconomy.

Part 3 of the book is concerned with production policy in Colombian agriculture. Topics discussed include the role of public and private investment expenditure and the pricing and availability of key agricultural inputs.

The main strength of this book is that it provides an excellent source of statistical and other factual information on the Colombian economy over the past thirty years with particular reference to trade policies, agricultural sector development and macroeconomic performance. The book's major weakness is that, contrary to the suggestion of its title, it does not develop a coherent picture of the way in which sectoral policies aimed at influencing trade flows and industry activity impinge upon macroeconomic performance and the effects of alternative macroeconomic strategies on sectoral growth prospects. On the other hand, for those seeking a rigorous analysis of the economic issues raised, the inclusion of a number of appendixes is very helpful. These appendices address some of the issues raised in the main text, in particular the interaction of coffee prices and inflation, the exchange rate and non-coffee exports, the rate of devaluation and the nominal interest rate and aspects of price stabilisation in Colombia.

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References

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Mayer, T. (1982), *Export Instability and Economic Development: the Case of Colombia*, Weltwirtschaftliches Archiv, Band 118, Heft 4.

—— (1983), *Instabile Exportmarkts und Wirtschaftliche Entwicklung: Der Fall Kolombien*, Kieler Studien 178, Tubingen.

[1] See for example the work of Dervis, de Melo and Robinson (1982).

[2] An example is the work of Mayer (1982, 1983).

Rural Labour Markets in Australia. Edited by ROY POWELL. (Monograph Series No. 10, Bureau of Labour Market Research, AGPS, 1985.) Pp. 367, ISBN 0644 04608 2.

This monograph aims to review our present knowledge and understanding of the changing structure of Australian rural labour markets and the processes impinging upon them, to point to significant gaps in this knowledge and to identify research priorities needed to bridge them. The surprisingly limited body of research in the area is reflected in the editor's introductory statement that 'these papers are a necessary preliminary to the mass of work needed for a thorough understanding of the operations of rural labour markets in Australia' (p. 1). Indeed the overwhelming feeling that one is left with after reading this collection is how much there is left to be done rather than what has been achieved. The contributors do not seek to cover all aspects of labour market analysis and include chapters concerned with the rural workforce, employment in agriculture, employment patterns in rural regions, unemployment in rural Australia, internal migration and rural labour markets, settlement types and labour training for rural dwellers. There is also an introduction and a thoughtful and illuminating concluding overview by the editor as well as a very comprehensive bibliography which represents a substantial contribution in itself. The emphasis of the collection is in reviewing and synthesising the extant literature although there are some new analyses included, mostly based on census data. There is also a predominance of description and presentation of findings and only the chapter on internal migration is explicitly cast within a theoretical framework. There is a wealth of empirical data presented and this will help make this a valuable resource book for all social scientists with an interest in rural Australia.

The first chapter is a straightforward presentation of census data of the rural workforce (most of it from the 1981 census) by broad section of state categories. The analysis is a useful introduction but only scratches the surface of the full potential of census labour force data for examining the structure of non-metropolitan areas. Most tables are not controlled by age and other relevant variables, and the text is largely a description of the tables rather than analytical or interpretive. Chapter 2 reviews the literature on employment in agriculture and is prefaced by a comprehensive critique of the available data sources. Estimates of the size of the agricultural workforce for each year between 1946 and 1980 are presented and there is an interesting and informed discussion of key issues, such as the increasing participation of women, off-farm employment and the impact of seasonality. In Chapter 3, 1981 census data is used to examine the total employment situation and how it has changed during the 1970s in section of state and non-metropolitan statistical divisions. The second part of the chapter is devoted to a consideration of the use of regional input–output models to examine the economic and employment structure of rural regions. The next chapter is especially interesting — it makes careful use of the flawed data available to examine the changing incidence and characteristics of unemployment outside of the statistical divisions containing major urban centres. This is a very underresearched area and the chapter by Harris is an informed and judicious treatment of the major issues. The dilemma of census and

survey data giving conflicting results on rural–urban differentials in unemployment is especially intriguing.

Internal migration is an important element in labour market development and adjustment to structural change, and the chapter by McKay presents a comprehensive review of the literature within an original and useful theoretical framework. To some extent, however, the reference to rural labour markets is a misnomer in that the review is more wide-ranging than rural areas. There is a strong focus in the discussion on job transfer migration and virtually no attention is given to migration in and out of agricultural employment, which was somewhat surprising to this reviewer, given the significance of agriculture in rural labour markets. Considerable attention is given here, as elsewhere in the volume, to the phenomenon of the turnaround — the 1970s reversal of the tendency toward population concentration. In Chapter 6, Sorensen and Weinand establish the tremendous diversity of labour force conditions in rural settlements with more than 200 residents. They review the literature on Australian rural settlements and produce a 17-category classification of 1200 centres based on a cluster analysis of workforce variables derived from 1976 census data. The technique produces a classification in which the categories are relatively meaningful, although there is little discussion of the utility of the classification obtained. The reliance on workforce characteristics in classifying cities and towns is one limitation of the study in that it ignores the importance of transfer payments in the economies of many non-metropolitan localities. The significance of those is well established and the 1976 census included data on persons receiving pensions and benefits which could have been incorporated. The final chapter reviews the patchy literature concerned with availability of labour training for rural dwellers and is inconclusive as to whether rural people are disadvantaged by lack of access to training programs.

The collection of papers does represent a substantial contribution to an area in which there is limited knowledge. It does not pretend to be comprehensive; the editor himself points out that important topics such as wage/earnings trends and the role of trade unions. have been omitted. However, the monograph is successful in reviewing a wide range of material and identifying priorities for future research. While one could hardly have expected the book to include a discussion of the effects of the recent rural crisis induced by market problems, in places the material presented is a little dated. It is mentioned, for example, that the Australian Bureau of Statistics does not produce population totals amended for underenumeration when in fact they now do. Several of the analyses conclude in 1981 (in the case of the classification of towns, 1976 data is used) where more recent data has been available for some time. At several points a continuation of the 'turnaround' is assumed, whereas the past few years have produced irrefutable evidence from North America and Europe of a 'turnaround of the turnaround'. In general, more detailed use could have been made of the 1981 census data on non-metropolitan localities. More use could also have been made of maps and diagrams to illustrate points. There is a degree of inconsistency in citations, several tables do not have detailed sources and there are a significant number of typographical errors (on at least 10 per cent of the pages). However, these imperfections should not detract from the

substantial achievement of the contributors to this volume in bringing together and reviewing a large amount of material on this important and neglected topic. They, and the Bureau of Labour Market Research who sponsored the work and publication, are to be congratulated. In his introduction, the editor looks forward to the Bureau continuing to expand its activity in this area. It is unfortunate that another of the events which has overtaken the situation is the announcement of the closing of the Bureau in its previous form. It is to be hoped that its successor takes up some of the challenges of the research priorities identified in this volume.

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Applied Statistical Analyses. By S. R. HARRISON and H. U. TAMASCHKE. (Prentice-Hall, Sydney, 1984.) Pp. 547, ISBN 0 7248 00344.

This book, written by two economists from the University of Queensland, was developed from teaching quantitative methods courses to internal and external students undertaking degrees in commerce and economics. The text contains eighteen chapters which the authors state would require up to four semesters of study by business and economics students. For the purposes of two-semester introductory courses in statistics, the authors suggest a selection of chapters which covers the material of basic significance in economics and commerce degrees. In addition there are four appendixes covering basic statistical tables, derivations of matematical results stated in the text, elementary mathematics and basic matrix algebra.

It is unfortunate that the authors do not present solutions to the exercises which are given at the conclusion of each chapter. The inclusion of a chapter which deals with statistical organisations and sources of data in Australia and New Zealand adds relevance for students interested in data sources in Australasia. Throughout the book, the authors discuss statistical concepts and methods by using problems and data (real and hypothetical) which have a particular Australasian flavour. While this may add some interest for students in this region, it is perhaps overdone in some of the exercises. For example, in exercises on probability (p. 121) we read of 'A Port Moresby daily newspaper . . .'; 'The counter staff at a Wagga Wagga delicatessen . . .'; and 'Beer sales at a Darwin drive-in bottle shop . . .'!

The text contains a good coverage of the topics required for introductory statistics courses within economics and commerce degrees in most Australian universities. The inclusion of mathematical derivations in the appendixes is possibly an advantage in that students with little mathematical aptitude will not be discouraged by reading a lot of mathematics in the text, while those with real interest in mathematical methods can be further motivated about statistics through studying the appendix material. The chapter on multiple regression analysis, which involves matrix algebra, may be beyond the scope of most students in introductory statistics courses for first year students. However, the authors recommend most of the multiple regression material be included in a third or fourth semester course,

along with analysis of variance, sample surveys, quality control, decision theory and non-parametric statistics.

The text is marred by a number of errors, confusing statements and notational inconsistencies. Some of these are noted below, with the hope that the authors might make appropriate revisions if a second edition is planned in the near future.

In the section on graphical presentation of data (pp. 18–20), the authors discuss frequency polygons which, when graphed, have the vertical axis as 'frequency per standard class interval (f)'. They state that, as the class intervals become narrower and the number of observations increase, the frequency polygon would approach a 'smooth frequency curve', whose graph has vertical axis denoted by f. This is not true even if the frequencies are substituted with relative frequencies, as is claimed by the authors in their next paragraph. Harrison and Tamaschke are not unique in this erroneous presentation and interpretation of a density function for a continuous random variable. Later in their chapter on probability (p. 85), they state that 'A probability density function ... *expresses the probabilities* of a continuous random variable taking on particular values. To be precise, since there are an infinite number of values in the value set, and since *their probabilities sum to unity*, the probability associated with any particular value *approaches zero* (as a mathematical limit).' (The italics are mine.) However, values of density functions for continuous random variables are not probabilities and the probability of any particular value is (exactly equal to) zero! Hence a density function for a continuous random variable should *never* have 'probability' listed on the vertical axis, as is found on some pages of this text (for example, pp. 129 and 259).

Harrison and Tamaschke discuss some basic concepts dealing with joint distributions of random variables in the concluding sections of their chapter on probability. They represent the covariance between two random variables, X and Y, by $\mathrm{Cov}(XY)$ or σ_{XY} (p. 79). Later it is stated (p. 83) 'A property of covariance is that: $\mathrm{Cov}(cXY) = c\,\mathrm{Cov}(XY)$'. It is not clear what the authors intend by this statement. If the preferred notation, $\mathrm{Cov}(X,Y)$ or $\sigma_{X,Y}$, was used (which is actually used in the simple regression chapter on p. 264, but not in the multiple regression chapter, see pp. 326–7), then the more relevant property of covariance could be given by $\mathrm{Cov}(aX,bY) = ab\mathrm{Cov}(X,Y)$.

In their statement of the Central Limit Theorem associated with the sample mean, $\bar{X}$, based on a random sample of size n of X, it would have been preferable if the authors had inserted the word 'approximately' on p. 126. That is, 'if X has non-normal distribution with mean, μ, and variance, σ^2, then $\bar{X}$ has approximately normal distribution with mean, μ, and variance, σ^2/n, if n is sufficiently large.' It is desirable to inform students clearly when statistical results are exactly true and when they are approximately true, and under what basic conditions.

Harrison and Tamaschke initially state (pp. 29–30) that upper-case letters represent random variables and the corresponding lower-case letters represent values of the random variables. However, in their discussion of interval estimation $\bar{x}$ is frequently used where $\bar{X}$ should be presented (see pp. 144 ff.). It is unfortunate that the sample standard deviation (a random variable!) is represented by s (see p. 148) and it is

referred to as the '*unbiassed* sample standard deviation'. While the sample variance, $S^2 \equiv \sum_{i=1}^{n} (X_i - \bar{X})^2/(n-1)$, is an unbiased estimator for the variance of X, the sample standard deviation, S, is not an unbiased estimator for the standard deviation of X.

In the brief discussion of testing for equality of variances (pp. 182–3), no explicit reference is made to the assumption of normality of the two (independent) random variables which are sampled or to the case of one-sided alternative hypotheses. Further, in the concluding section of hypothesis testing, the authors deal with the 'Chi-squared test'. They define a 'test statistic' as, $\chi^2 = \sum_{i=1}^{n} \left\{\frac{x_i - \mu}{\sigma}\right\}^2$, and describe it as 'the sum of squares of standard normal variables where these variables are independent of each other' (p. 183). There is no discussion of the random variable, $\sum_{i=1}^{n} (X_i - \bar{X})^2/\sigma^2$, which has χ^2_{n-1} distribution if $X_1, X_2, \ldots, X_n$ is a random sample of a normal random variable with variance, σ^2, and its usefulness for testing hypotheses concerning σ^2. The section goes on to consider the goodness-of-fit statistic, $\sum_{i=1}^{k} [(f_i - e_i)^2/e_i]$, whose individual terms are not independent, nor are they the squares of standard normal random variables!

In their discussion of the two-variable linear regression, Harrison and Tamaschke state (p. 264) that the random errors must be independent and that this requirement may be expressed by the covariances between different random errors being zero. Of course independence of random variables implies zero covariances, but the converse is not necessarily true (unless normality is involved).

In their discussion on the prediction of individual values of the dependent variable for the regression model (pp. 284–5), the authors claim that the standard error of the predictor, $\hat{y}_0 \equiv b_1 + b_2 x_0$, is 'larger in this case' than for the estimator, $\hat{\mu}_0 \equiv b_1 + b_2 x_0$, for the mean, $E(Y \mid X = x_0) \equiv \beta_1 + \beta_2 x_0$. This is false. What is required for confidence prediction of an individual observation is an estimator for the variance of the *error in the prediction*, $y_0 - \hat{y}_0$. Given this modified explanation, the appropriate confidence predictor for y_0 is given by the authors on p. 285.

Harrison and Tamaschke consider the correlation coefficient more fully after discussing the basics of inference for the two-variable regression model. While it is true that a correlation coefficient of $+1$ (or -1) can result only if the possible values of the two random variables, X and Y, lie exactly on a straight line of positive (or negative) slope, it is not the case that the possible (X, Y) values must lie on a straight line parallel to the X-axis, if the correlation coefficient is zero (as implied on p. 288).

In their discussion on testing hypotheses for the correlation coefficient, Harrison and Tamaschke claim (p. 290) that the random variable, $t = \frac{r - \rho_{XY}}{s_r}$, where $s_r = \sqrt{\frac{1-r^2}{n-2}}$, has t-distribution with $n-2$

degrees of freedom. This is true only if X and Y are uncorrelated normal random variables. Further, s_r is referred to as 'the estimated standard error'! This is false. The variance of the sample correlation coefficient for two random variables which have bivariate normal distribution is a reasonably complicated expression that is quite different from s_r. However, the authors present the correct test procedure for testing for zero correlation coefficients. They make a serious error on p. 291 in claiming that the random variable, $\frac{r-\rho_{XY}}{s_r}$, can be used to test any hypotheses about the correlation coefficient, ρ_{XY}. Approximate test procedures (using Fisher's z-transformation) are available for testing hypotheses about non-zero correlation coefficients for normal random variables.

It appears that it is some years since an elementary statistics book was written by Australians to serve the needs of economics and commerce students. Harrison and Tamaschke's text should compete strongly for a significant portion of the market for such books within tertiary institutions in Australasia.

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