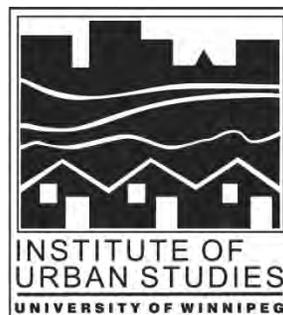


Winnipeg's Challenge: Adjustment to Post-Staple-Led Growth

Occasional Paper No. 11

**by Derek Hum
1984**

The Institute of Urban Studies





THE UNIVERSITY OF
WINNIPEG

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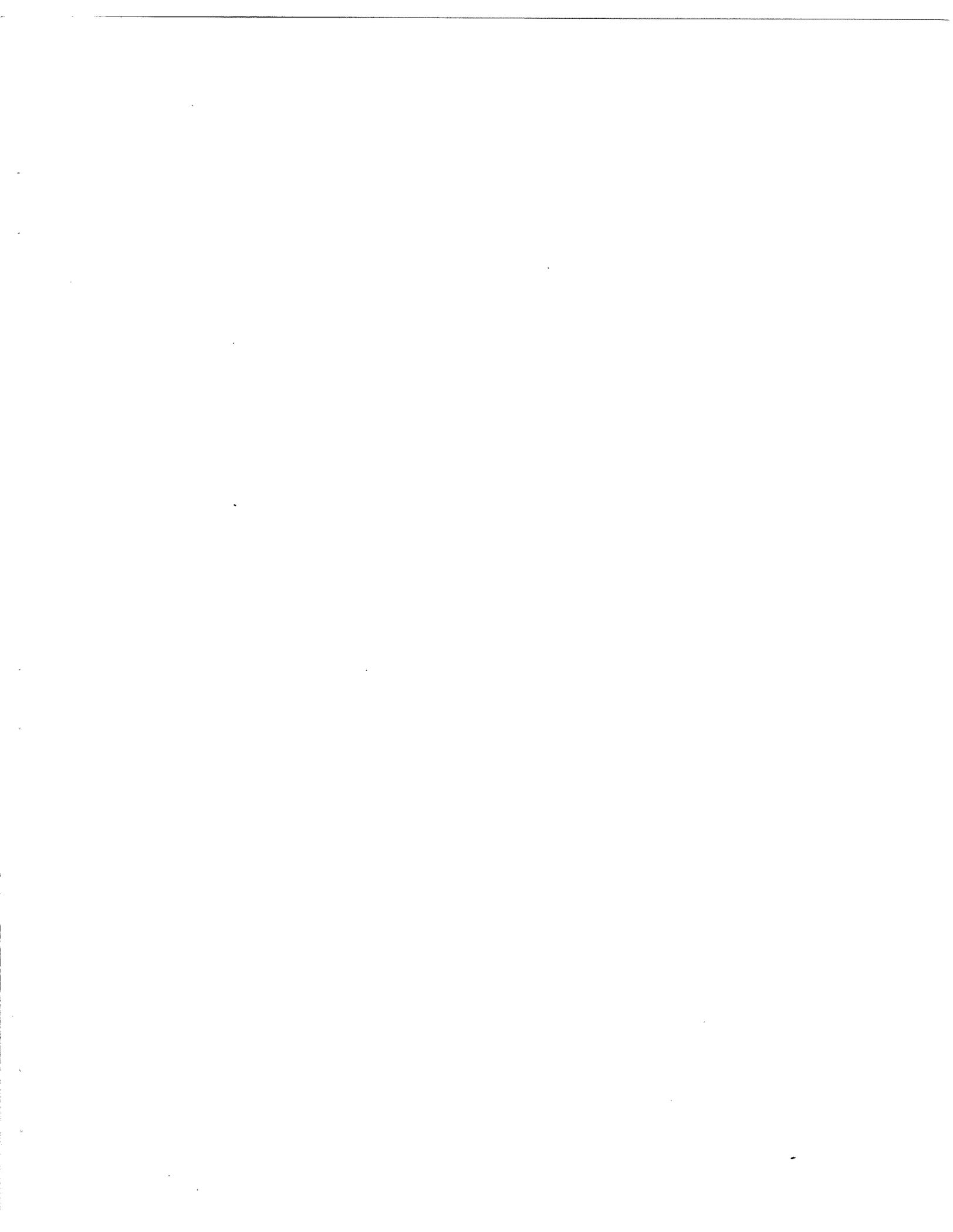
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1.0 INTRODUCTION

Winnipeg is a major urban centre in the prairies. It accounts for most of Manitoba's population, its employed labour force, and a large amount of the industrial production and disposable income of the province. Winnipeg has grown faster than the province in virtually every category except primary production. Much of the City's development can be associated with the changing mix of urban and rural activities in the Canadian economy as a whole. Not surprisingly, when Manitoba experienced a rural-to-urban flow of people to Winnipeg during the 1970s, Winnipeg's domination of the Manitoba economy was reinforced. More recently, there have been concerns about the absolute loss of people from the province; Manitobans are leaving both farm and city for other parts of the country. Furthermore, the general shifts of population and economic activity from East to West (and back) appear to be by-passing Winnipeg and Manitoba.¹ The concerns of Manitobans in the 1970s centred on its resolve to increase its relative share of national growth without undue sacrifice of its "quality of life," to minimize its loss of young people by providing an "option to stay," and to develop some sort of strategy to improve its narrow industrial base through secondary manufacturing.² These concerns still linger, but the luxurious prospect of adjusting to these challenges at a leisurely pace does not exist. The Canadian economy has been anything but stable or healthy. Nor does the performance of sister cities to the West offer comfort or instruction. The boom conditions in other major Western centres can be ascribed in large measure to the expanding exploitation of natural resources such as oil and gas, uranium, potash, and the like. There are no lessons in these episodes of good fortune for Winnipeg. Rather, on closer examination, it is the historical experience of Winnipeg's economic development which might instruct other urban centres now experiencing resource-based expansions and contractions as to their future economic prospects.

This essay examines some of the implications of urban development and adjustment based upon resource expansion, or what is commonly called "the staple framework." Of particular concern will be the issues facing a mature urban centre, such as Winnipeg, whose resource-staple has ceased to be the prime cause for rapid growth. What are the consequences of a development process previously dependent upon a particular staple? And what response is possible from a mature urban centre facing such circumstances? Canadian history provides few instances of a major urban centre successfully adjusting to post-staple-led growth. Winnipeg is an interesting example as it struggles with its legacy of staple-led growth. The lessons to be learned from this historical experience, and Winnipeg's rise to the challenge of adjustment to post-staple-led growth, should not be neglected by other western urban centres now temporarily pre-occupied with different problems; namely, tremendous growth and dramatic declines resulting from staple development. First, however, a description and discussion of the staple framework is necessary.

A staple is a natural resource product. Generally the staples thesis or approach is the view that the successful establishment of a new region is dependent upon the export of a natural resource product which is in strong international demand. In newly-settled regions a favourable ratio of plentiful land to population is thought to encourage, or necessitate, staple exports as a leading growth sector. Consequently, the regional economy concentrates on staple production and, in the process, the entire population will be drawn directly or indirectly into this activity. In the extreme, almost all aspects of society as well as the economy will conform to the production requirements of the staple.

Many investigations of Canada's economic development employ the staple framework as a useful and unique explanation of growth. In early studies, however, little attention was devoted to the process and aftermath of an economic region in which the staple had ceased to be the dominant factor. Even less attention was focused upon urban development in the post-

expansionist or "maturing staple" phase. Consequently this essay is concerned principally to develop the staple approach from two special perspectives: first, its relevance to urban development; and second, the economic implications of a maturing staple phase. A heuristic exposition of this framework is given in the next section. The potential lessons for other resource-based centres and the policy implications for a city such as Winnipeg are examined briefly in the final two sections.

2.0 STAPLES, GROWTH AND WINNIPEG'S URBAN DEVELOPMENT

There can be little doubt that Winnipeg's past growth was heavily influenced by staple production, most notably wheat.³ Wheat was the key staple or "natural" resource around which expansion centred. Wheat also provided the export base for the creation of various service sectors conducive to furthering diversified urban development. But Winnipeg's emergence as a lively commercial and financial centre for the prairie region should not mask its fundamental dependency on resource-based determinants of growth, nor to the peculiar vagaries and vulnerability of that growth source.

Some understanding of the theoretical perspective on regional urban growth and the staples economy is necessary. An appreciation of the metropolis-hinterland distinction is also required in discussing the course of urban-industrial development. The staples framework has been interpreted as a growth model, a dependency model, or more generally, as an approach to understanding the complex relationship between a region with natural resource exports and external centres of exogenous demand. The metropolis-hinterland theme focuses upon the inference that, in a resource-based growth pattern, the evolution and morphology of a city will be shaped by the nature and pace of the entire surrounding region's economy. But a regional economy is subject to external shocks and exogenous forces. Therefore, the overall adjustment of a regional economy -- both

its metropolis centres and hinterland regions -- is, in turn, largely a response to "external" and "uncontrollable" factors. This is the starting point of the staples thesis; the effective demand for any region's staple is determined independently by the "outside world," and not from within.

The staple framework has been a traditional perspective for interpreting Canadian history and economic development.⁴ More recently, it has been applied to urban historical development. For example, McCann employs an informal version in his studies of Vancouver and Halifax.⁵ However, the most formal integration of the staple approach and the metropolis-hinterland theme is given by Hum and Phillips who investigate the consequences of urban development in a "maturing staple phase;" that is, after the staple has ceased to be the leading growth mechanism. While this analysis is fundamentally theoretical, it is obvious that Winnipeg is considered. The model by Hum and Phillips is sketched below.⁶

A staple regional economy may be characterized by two salient features: first, a very large proportion of the region's economy is devoted to producing a resource product for export purposes; and, second, domestic regional consumption of this natural resource product is very small. Both of these conditions apply to a number of staple products and regions of Canada. Examples are codfish and the Maritimes before the nineteenth century, and timber and central Canada in the early nineteenth century. It certainly applied at one time to wheat and the Manitoban economy. Since demand for this resource staple (wheat) is determined entirely outside the producing region, it is clear that growth in export trade leads directly to growth in the production of the staple. In turn, growth in the production of the staple determines the overall growth rate of the regional economy. The staple sector becomes the leading sector and consequently the overall performance of the region, including

its urban centres, will be directly and functionally dependent upon the growth in demand for the staple. In the case of Winnipeg the staple was wheat. It is quite clear that wheat and export-led growth cannot be solely relied upon in the 1980s to provide the impetus for Winnipeg's future development.

During the wheat boom period, 1896 - 1929, service centres on the prairies performed the functions of collecting, processing, storing and merchandising the staple, providing auxiliary support to the staple sector such as legal and financial services, and manufacturing certain inputs for staple production. The unifying characteristic of all these functions performed by the prairie urban centres was their total dependence on agriculture. This is true whether one considers the numerous small hamlets centred on a grain elevator or a regional metropolis like Winnipeg. In short, the regional economy diversifies, but only in terms of the staple.

Economists frequently describe the extent of diversification around the staple export base in terms of backward and forward linkages.⁷ Backward linkages refer to investment in the home production of inputs, including capital goods, for the expanding export sector (e.g., tractors for wheat production); forward linkages refer to diversification around the staple export base and are to be distinguished from final demand linkages. Final demand linkage refers to domestic industries which produce consumer goods and therefore represent diversification away from rather than around the export base (e.g., manufactured consumer goods).

The exact relationship between the rate of growth in trade, the rate of growth in the production of staples, and the overall growth rate of an export-dependent region may be established formally.⁸ More significant, a region may become less specialized in staples over time. There is often a tendency as well as a desire to channel additional economic

resources into the manufacturing sector and away from the staple sector. In other words, final demand linkages become more important relative to backward and forward linkages. This phase -- which Hum and Phillips have termed the "mature-stage" or "post-staple-led stage" -- will introduce several effects. It has been shown to impart an anti-trade bias to the region's production pattern; it will moderate the growth of the entire region; and it will also reduce the region's reliance on staple exports as a determinant of growth. It will also have dramatic implications for the region's urban centres.

The above observations are no different from what one would expect from any export-led growth process; it merely emphasizes the fact that urban growth in a staple region will be largely due to overall growth in staple trade, and that these determinants are beyond the control of individual cities. What is more intriguing are the implications for staple-led urban development relating to structural change, particularly after exogenous demand for staples has ceased to grow; in other words, post-staple-led adjustment. This, is the situation currently facing Winnipeg and further elaboration is therefore justified.

The adjustments faced by a city such as Winnipeg whose particular staple (agriculture) suffers a decline in growth of demand has been investigated elsewhere with the aid of a formal model. For present purposes it is only necessary to highlight the main implications of that model by giving a diagrammatic illustration of its major features. The assumption of a mature staple phase that international demand now grows at a much slower rate than previously, and that the regional economy is now sufficiently diversified that it is meaningful to consider two sectors: staple production and non-staple (or manufacturing) production. However, the overall regional economy still possesses a favourable land-to-capital-and-labour ratio; consequently, it continues to have a comparative advantage in the production of the resource-intensive staple commodity vis-a-vis

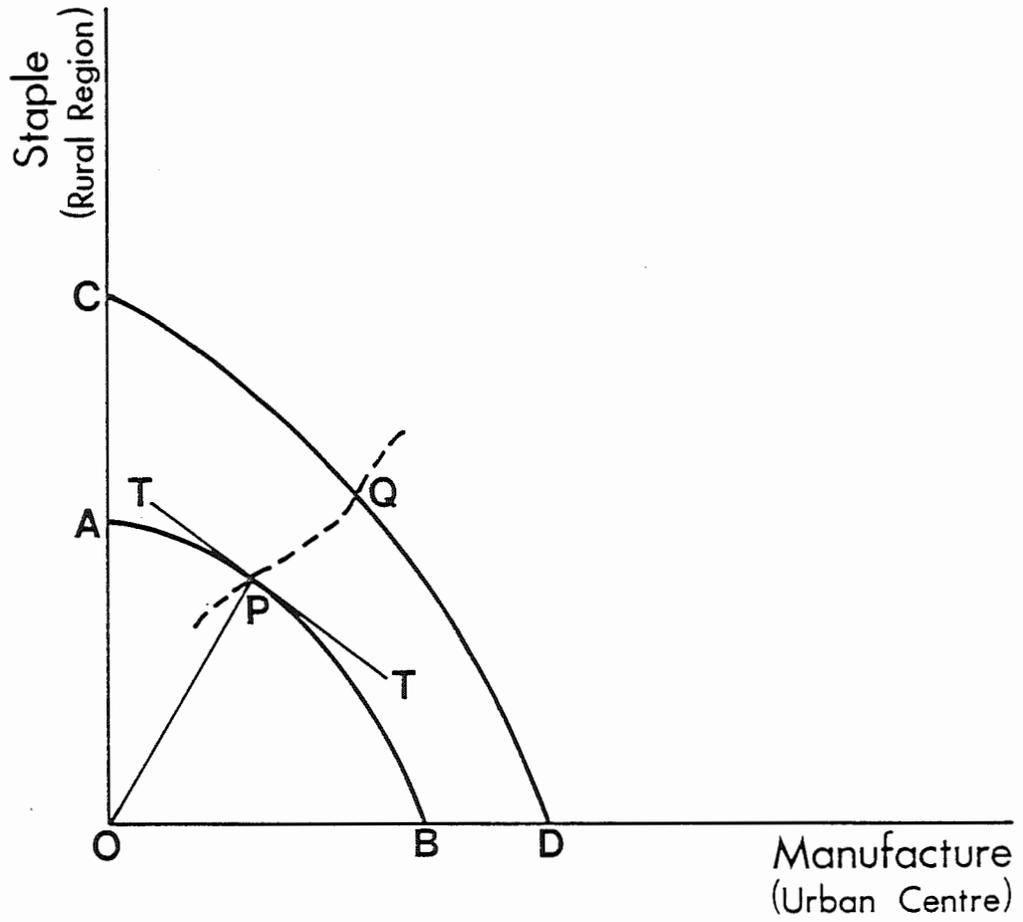


Figure 1: Production Possibility Frontier, Division of Output, and Distribution of Population

the rest of the world. This implies that overall productivity will grow at a faster rate in the staple sector than the manufacturing sector. For convenience, rather than necessity, assume that all manufacturing activity occurs in the metropolis or urban centre and that all staple production takes place in the hinterland or rural regions.⁹ Further, let us consider labour by itself¹⁰ and assume a single, integrated labour market with mobility of labour. Uniform wages are established by the staple sector according to labour productivity and transmitted to the non-staple sector.¹¹ Under these circumstances the differential in productivity growth rates between the staple and manufacturing sectors will cause the relative cost of producing staples to increase over time. The labour force and population will become increasingly urbanized, the overall rate of growth of the region will decline over time and the region will witness a combination of rising urban unemployment, falling relative wages and regional out-migration.

It is perhaps helpful to translate some of the preceding discussion into simple diagrams. Figure One illustrates a sequence of production possibility frontiers. The vertical and horizontal axes measure staple and manufacturing output respectively. The production possibility frontier APB summarizes the technically-feasible set of output combinations possible with full employment of inputs. The regional economy will locate on a particular point on this frontier, say P, as a result of demand conditions (not illustrated). The slope of the line TPT represents the "terms of trade" between staples and manufactures; that is, how much of one good must be sacrificed in order to obtain an extra unit of the other good. Since we have assumed, for convenience, that all staple production occurs in the hinterland and all manufacturing takes place in the urban centres, the division of regional output between staples and manufacturing also indicates the geographical distribution of population. Accordingly, the slope of OP represents the rural/urban population mix. As factor inputs grow over time, the production possibility frontier shifts outward

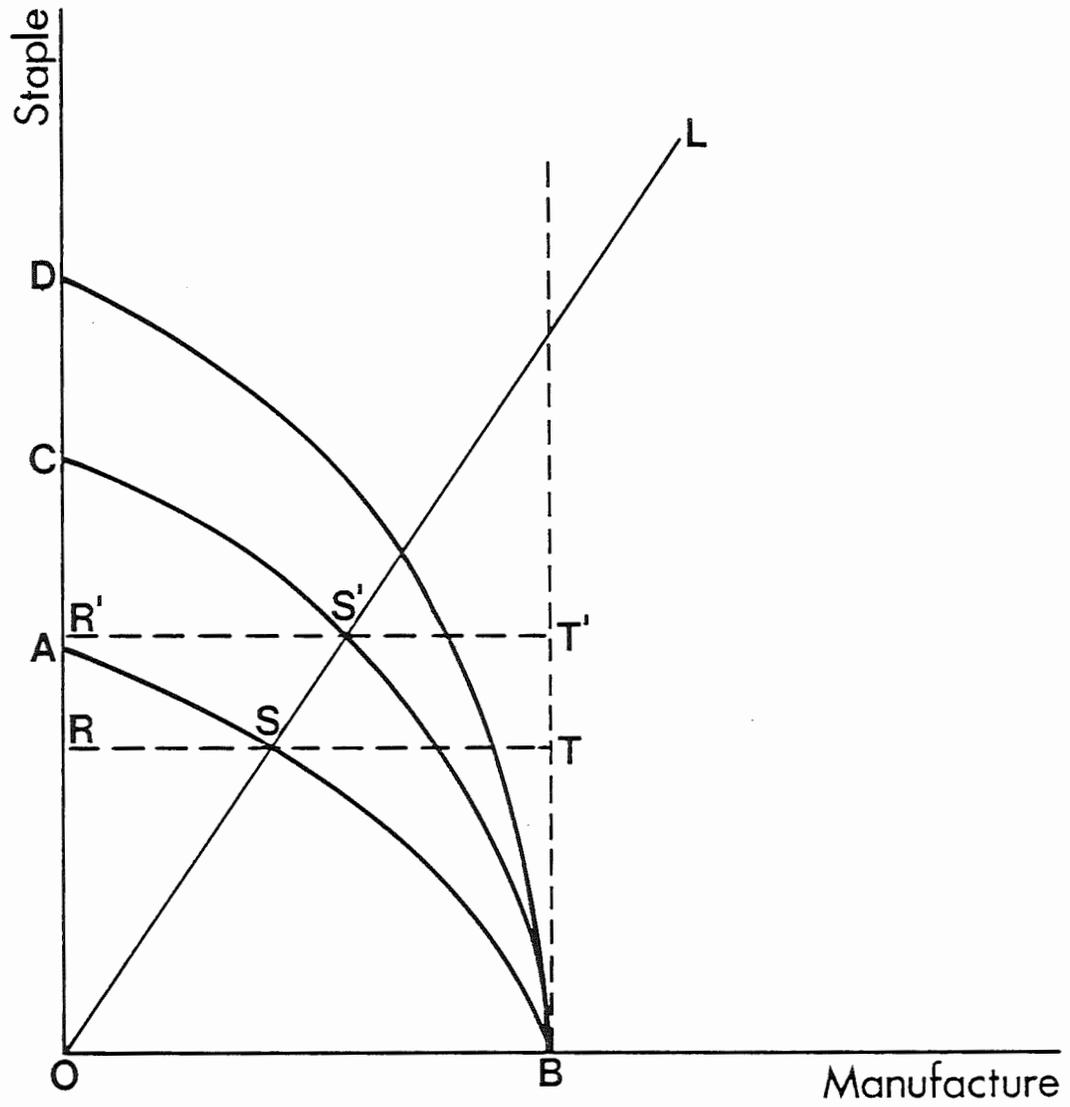


Figure 2: Productivity Growth, Output Ratio and Distribution of Labour Force

to CQD. The economy resting point might be at Q. The sequence of resting points for a growing economy traces out an expansion path (dashed line) and depicts the pattern of economic and urban development.

Figure Two illustrates the effect of differential productivity growth.¹² It is convenient to assume that all productivity growth takes place in the staple sector.¹³ Accordingly, the leftward end of the production possibility frontier will, through time, shift farther and farther from the origin (see Figure Two). The righthand end will not change positions since it represents full utilization of labour in manufacturing. Over time, the economy will shift from an original position AB to CB, to DB, and so on. The relative rising cost of non-staples is evident by inspection; it is captured by the sequence of slopes of the production possibility frontiers. The increasing slopes indicate that progressively larger amounts of staples must be sacrificed for a given unit of manufactures.

Suppose briefly, that a "balanced growth" path is attempted, either as a result of subsidies or other policies. Balanced growth implies a constant ratio between staples and manufactures and this is depicted by OL. Assuming that output is proportional to labour employed in its production, then OB is the maximum output of manufactures and therefore depicts the total labour force. At a lower level of output of manufactures, say RS, then RS/RT is the ratio of labour employed in manufacturing to total labour. In the next period, it is seen that this ratio has risen to $R'S'/R'T'$; consequently, the proportion of labour devoted to manufacturing rises. This requires an increasing urbanization of the labour force, or, what is the same thing, depopulation of rural areas. This is what has happened in Winnipeg and its rural hinterland during the recent past. Modifications of the above analysis to permit some influence by government policy, or to take into account international demand patterns and the like, do not alter the fundamental conclusions but merely increase

the complexity of the model.¹⁴ The implications may therefore be summarized as follows:

- a) Urban development and growth are determined by staple-led trade growth;
- b) For regions such as Manitoba where agriculture is the leading staple, where productivity increases are higher in agriculture than in other sectors, and where labour is free to move about in a single, integrated labour market, the following propositions hold:
 - i) the relative cost of producing non-staples will increase over time;
 - ii) the labour force and population will become increasingly urbanized over time;
 - iii) the overall rate of growth of the region (Manitoba) will decline (as will urban growth); and
 - iv) these projections are fairly insensitive to alternative plausible modifications of the model's assumptions.

The central concern of the preceding exposition has been to integrate the staple framework with the metropolis-hinterland theme to relate urban development to what has been called the "post-staple-led" phase -- that period when the staple is no longer the sole "engine of growth." The lessons of this model suggest that policy concentration on improving the productivity of staple production for export in a post-staple-led period merely intensifies the rate of urbanization and exacerbates problems for the urban centres. If the urban sector cannot absorb this net inflow of people, the implications are clear: there will be rising urban unemployment, falling relative wages, and regional out-migration. The long-term prognosis is stagnation. The post-wheat-boom economy in western Canada appears to support the predictions and the tendency towards stagnation outlined above. Winnipeg is the exemplary case. Equally apt, however, is the tendency towards decline in other parts of the prairies blessed neither by a discovery of new staples nor by increases in demand

for existing staples. The hard question before us is whether any policy strategy is possible which might mitigate, or even reverse, the tendency towards stagnation. While other western cities might presently view this question with little more than academic interest, the problem is literally on Winnipeg's doorstep. Can anything be done?

3.0 SOME POTENTIAL LESSONS

What lessons might be gleaned from the foregoing examination of urban development in a staple-based region? The most significant conclusion is that the tendency towards declining growth and secular stagnation is both inevitable and endogenous as the resource staple enters its mature phase. Throughout, however, the implicit assumption has been that no initiatives were introduced to alter the region's orientation to staple trade. Obviously, policy measures or other forces which broaden the economic base of the metropolis-hinterland would affect the projection of slower growth.

The prognosis of progressive relative decline implied by a maturing staple-economy depends upon the slower productivity growth of non-staples. That is, the internal "terms of trade," as it were, turns against the staple. The natural response of economic policy in this situation would be to introduce protective measures such as tariffs. But whatever the wisdom or benefits of protection to the national economy as a whole, individual urban centres and regions cannot initiate commercial policy measures. The Canadian constitution specifically allows only the federal government to levy tariffs and quotas, and besides, urban centres are typically too open and enjoy too great a degree of factor-mobility to make tariffs work.¹⁵ Urban centres must therefore respond in other ways, such as encouraging import-substitution and staple processing in the region, promoting more rapid technical change in non-staple industries, or diversifying the economic base of the metropolis-hinterland region.

Diversification away from the staple base is difficult. First, staple exploitation may have required capital expansion as a complementary strategy. Fixed capital, installed for resource development purposes, may not be suitable for other uses. The grain elevators and rail branch lines which were installed to store and transport grains cannot be easily adapted to non-agricultural uses. Also, traditional sources of capital may have a bias towards maintaining investment in familiar pursuits. Furthermore, the total amount of investment funds is not unrelated to the pattern of income receipts. An economy structured around the task of exploiting a staple export will yield a particular distribution of income. The income shares which accrue to labour (wage), capital (profits), and owners of resources (rents) can have a significant effect on the level of investment. For example, if rents are a large proportion of total income and accrue mainly to outsiders, an attempt to increase capital formation for domestic non-staple production may be difficult. In other words, new and additional investment may be required to effect a transformation of the economy away from its customary reliance on staples,¹⁶ but this could require a fundamental restructuring of the distribution of income. The likely source of new capital, which must be enticed into areas of activity that are not the traditional strengths of the region, is neither easily identified or tapped.

The same consideration can be made with respect to labour. The Canadian historical experience has, however, been one of fairly elastic labour supplies. Further, the maturing staple phase will permit some net release of labour from agriculture and support services. Current demographic trends also point to continuing high rates of labour force participation by women. Skill shortages could be a problem, but labour scarcity per se is less likely than capital shortage.

Generalization concerning the ease or difficulty of diversification away from staple exploitation is hazardous; one must consider the

peculiarities of specific staples as well as the market circumstances and geographical location of metropolis-hinterlands at a given time. For example, McCann has examined the urban growth patterns of Halifax and Vancouver within the staple framework and the heartland-hinterland perspective. He compares Halifax's failure to engage in staple processing with Vancouver's success in doing so, and concludes that this partly explains Halifax's slow and restricted industrial growth. Additionally, Halifax was a city at the periphery of the national market network while its Ontario and Quebec counterparts were in the central heartland and enjoyed access to large markets.¹⁷ This observation illustrates that the entire urban system and North American market structure, and not a single city in isolation, must be examined when gauging the likely success of a given region's attempt to diversify. The western provinces and the prairie urban system, therefore, deserve to be considered together when examining the fate of Winnipeg.

The conclusions of a recent study deserve to be noted. After a careful analysis of recent prairie economic performance, Norrie and Percy point to the need to distinguish between a change in the rate of growth and a change in the mix of output. A higher rate of growth in the West due to an increase in the rate of staple production may simply reflect a faster replication of the western staple-based economy relative to the East. There need not be a shift to industrialization in the sense that national-scale services or manufacturing are being established in the West to the detriment of the East. The empirical findings of Norrie and Percy lead them to conclude:

There is no firm indication...from the available data that the four western economies are in the midst of diversifying beyond areas of traditional comparative advantage into ones more directly competitive with those of Central Canada. The growth in manufacturing and services that is evident seems to be directly tied to the expansion of the primary sector....By historical comparison, the current expansion has the same kind of staple or export-led economic structure as that at the turn of the century.¹⁸

The foregoing exposition and discussion of urban development and the staple economy permits two limited generalizations. Economic linkages of the kind envisioned by optimistic proponents of staple-led growth are more difficult than imagined. The scenario that staple export, if relied upon for a long period, will promote sufficient forward, backward, and final demand linkages with the rest of the regional economy so that permanent self-sustaining growth becomes the natural consequence, must be regarded with some skepticism. Winnipeg provides mixed evidence at this stage.

The experiences of other western regions are also noteworthy. Saskatchewan's urban centres are not exclusively dependent upon agricultural staples; there is now oil, gas, uranium, and potash. But diversification by enlarging the number of staples involved in the resource-based expansion can hardly be labelled a long-term strategy. Canada's economic history has recorded quite dramatically the growth and decline of different regions as individual staples first expand, then diminish, in importance. Having a variety of staples in a regional portfolio is a matter of luck; it does nothing to ensure that the implied secular decline associated with maturing staples is any more than merely retarded or smoothed. On the other hand, Alberta's efforts to diversify by attempting to integrate, both horizontally and vertically, its staple resource of oil and gas is in its infancy. Its success cannot be predicted although Alberta does have an advantage not enjoyed by Manitoba or Winnipeg -- the Heritage Fund savings account for industrialization purposes.

4.0 POLICY IMPLICATIONS

Lessons from history tend to be oblique, and even more so when viewed through spectacles fashioned from economic models. But surely both history and economics can claim credit if its lessons enable us to chart future courses more intelligently. The policy implications for the Winnipeg

metropolis-hinterland seem to be unequivocal. The "open," "resource-base," regional economy is too vulnerable, and its ability to affect major determinants of growth such as external demand is negligible. Protective commercial policies, or even a national industrial strategy, are unlikely to help individual cities except fortuitously because their design is generally based upon regional and industrial sector considerations.

This discussion suggests that the ability of a staple-based region to escape the secular decline inherent in resource exploitation is extremely limited, at least without initial state intervention and long-term planning and control. Other western provinces -- Saskatchewan, Alberta, and British Columbia -- appear appreciative of this fact; their governments are actively involved in securing jurisdictional control over natural resources, regulating the pace of their exploitation, and attempting to develop suitable processing of their natural resources. In many ways their management tasks are especially difficult since the tempo of staple-led growth is quite rapid.

The warnings which a close reading of Winnipeg's experience might contain for other western urban centres undergoing boom expansions give no comfort to Winnipeg. Winnipeg, as the main urban centre of a mature-staple region, must find its own way. Are massive, capital-intensive projects such as hydroelectric developments, designed to take advantage of Manitoba's energy resources the answer? Can Winnipeg rely on the fact that economic activity in Canada, in its rush towards part of the country farther west, will cause some beneficial spillover? It is better, to be "passed through" than "passed over." Or, will Winnipeg assume the role of a major service centre and supply outlet for activities farther west? Is the current city planning strategy, with its emphasis on containment of development and revitalization of the downtown core, appropriate? Can Winnipeg identify and attract sufficient key high-technology industries to generate enough varied and non-staple-related employment to anchor Winnipeg's future prospects on a more secure

foundation?¹⁹ Or should Winnipeg concentrate its energy towards extending and improving its social and cultural amenities, its significant infrastructure, and the many features which improve its quality of life? Rather than attempt to kidnap a particular high-technology industry, force-feed its infancy in Winnipeg and hope that it will grow into an industrial giant, it might be best to avoid such risky ventures but remind one and all of Winnipeg's considerable advantages, its easy access, and its proximity to poles of growth to the east and west of the city. These issues constitute the challenge for Winnipeg in its search for solutions in adjusting to post-staple-led growth.

NOTES

1. A recently completed study examining the phenomenon of westward shift of economic activity revealed that for the period 1961-78 Manitoba's growth performance lagged behind the national average rate in all seven measures: gross domestic product at factor cost, real domestic product, population, personal income, personal income per capita, employment and retail sales. Using Ontario as a benchmark, Manitoba also ranked behind Ontario in every measure except growth in per capita income. Manitoba was able to maintain its per capita income position because of out-migration. See K.H. Norrie and M.B. Percy, "Westward Shift and Interregional Adjustment: A Preliminary Assessment." Discussion Paper No. 201 (Ottawa: Economic Council of Canada, 1981), 89-90.
2. See, for example, Guidelines for the Seventies (3 volumes), Province of Manitoba, March 1973.
3. For recent detailed histories of the City of Winnipeg, see Alan F.J. Artibise, Winnipeg: A Social History of Urban Growth, 1874-1914 (Montreal: McGill-Queen's University Press, 1975) and Alan F.J. Artibise, Winnipeg: An Illustrated History (Toronto: Lorimer and Co., 1977). Also see R. Bellan, Winnipeg's First Century (Winnipeg, 1978).
4. For example, see W.A. MacIntosh, "Economic Factors in Canadian History," Canadian Historical Review IV (March 1923); H. Innis, The Fur Trade in Canada, revised edition (Toronto: University of Toronto Press, 1956); M.H. Watkins, "A Staple Theory of Economic Growth," Canadian Journal of Economics and Political Science 29 (1963): 141-58.
5. See L. McCann, "Urban Growth in the Staple Economy: The Emergence of Vancouver as a Regional Metropolis, 1886-1914," in Vancouver: Western Metropolis, L.J. Evenden, ed., (Victoria, 1978); and "Staples and the New Industrialism in the Growth of Post-Confederation Halifax," Acadiensis VIII, 2 (1979); D. Hum, "The Future Economic Prospects of Winnipeg: An Analytic Speculation," in Winnipeg: 1874-1974, Progress and Prospects, T.J. Kuz, ed., (Winnipeg: Queen's Printer, 1974); P. Phillips, "The Prairie Urban System, 1911-1961: Specialization and Change," in Town and City: Aspects of Western Canadian Urban Development, Alan F.J. Artibise, ed., (Regina: Canadian Plains Research Center, 1981) and D. Hum and P. Phillips, "Growth, Trade and Urban Development of Staple Regions," Urban History Review X (October 1981).
6. The exposition here is heuristic and is intended to draw out the policy implications. Further, exaggerated assumptions are made to accomplish a graphical presentation. The general model is described more formally with mathematics in Hum and Phillips, "Growth, Trade, and Urban Development." The dynamic properties of the model and other implications are made explicit there; the interested reader may consult the technical appendix to that article for details.

7. See M.H. Wakins, "A Staple Theory," for a more complete discussion of these linkages.
8. See Hum and Phillips, "Growth, Trade and Urban Development," for details.
9. This assumption is made for convenience in terms of graphical presentation. The argument is not affected as long as most manufacturing occurs in cities and most staple production takes place in rural regions. It is a matter of degree rather than absolute dichotomy.
10. Again, focusing exclusively on labour is a convenience. Considering other factor inputs, other than labour, merely complicates the model but does not alter the results. Further, graphical presentation is impossible with additional factors.
11. The assumption is again unnecessarily strict. It is only necessary that wages in the two sectors go up and down together and that money-wage rate increases rise with productivity increases.
12. This diagram is adapted from W. Baumol, Economic Dynamics, Third Edition (Toronto: MacMillan Co., 1970), 432.
13. This assumption is again made for graphical convenience. Alternatively, the reader may interpret the graph as concerning itself with net productivity growth in the faster-growing sector. In other words, if productivity growth in the manufacturing and staple sectors are 3 per cent and 5 per cent respectively, we are principally concerned with the effect of the additional 5 - 3 per cent growth in staples on the economy's structure.
14. See Hum and Phillips, "Growth, Trade and Urban Development."
15. The Mayor of Winnipeg has been promoting the idea of Winnipeg as a free-trade zone. This could be interpreted, with much stretching, as an attempt at commercial policy.
16. The pattern of income distribution may have a decided impact on the level and structure of demand for non-staple production as well as the supply of capital through the consumption and savings pattern. For further discussion, see R. Baldwin, "Patterns of Development in Newly Settled Regions," Manchester School of Economics and Social Studies 24 (1956): 161-79.
17. L. McCann, "Staples and the New Industrialism."
18. K. Norrie and M. Percy, "Westward Shift and Interregional Adjustment," 111-2.
19. The present Plan Winnipeg (Draft By-law 2960/81) embodies this strategy, and the Core Area Initiatives Plan emphasizes this approach.

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