A FRAMEWORK FOR REGIONAL ACCOUNTS: AN AUSTRALIAN PERSPECTIVE

BY R. J. WALTERS*

Australian Bureau of Statistics, Canberra

The Australian Bureau of Statistics (ABS) has recently published a set of experimental estimates of gross State product at factor cost and its income components for the States of Australia (1): The regular compilation and publication of the estimates is also commencing. In compiling the estimates, certain conceptual issues were confronted. Others were recognized but have not required final resolution as yet because they are beyond the scope of the estimates presently compiled.

This paper considers the development of a framework for regional accounts for countries with regional characteristics broadly similar to those of the Australian States by starting with the SNA framework that applies at the national level. The difficulties that arise are highlighted and alternative approaches for dealing with specific issues discussed. These alternative approaches can have a significant impact on measured State relativities and performance over time. In some instances the choice between approaches may be narrowed because of practical considerations in the same way that the SNA is a conceptual framework that nevertheless has to take account of practicalities. The issues largely involve consideration as to whether or not to regard certain activities as extra-territorial in nature. If an extra-territorial concept is not adopted choices must be made on how to allocate data items related to such activities by State.

1. INTRODUCTION

The 1968 SNA represents a framework which is capable of addressing many policy issues and other applications at the national level. However, the SNA does not address the requirements for a regional accounting framework. The SNA simply noted that:

> "Any system of national accounts could be subdivided by region and in recent years a number of countries have been engaged in the construction of regional accounts. This development gives rise to a number of conceptual problems which are only of minor importance, if they exist at all, at the national level and to many new problems of measurement. It would be helpful in due course to add a regional dimension to the SNA but, in view of the many other problems on which work is needed, this extension of the system does not have a high priority at present." (para 1.90)

The SNA was developed partly out of a desire for consistency in concepts, definitions and classifications to enable comparisons between countries. However, at the regional level, the demand is more for comparability across regions within countries. In addition, whereas the SNA is judged to have fairly general applicability as an appropriate national accounting framework, any framework devised for the regional level is unlikely to have such general applicability. The framework chosen for the presentation of regional data is likely to be dependent on the size,

*Views expressed in this paper are those of the author and do not necessarily reflect those of the Australian Bureau of Statistics. Where quoted or used they should be attributed to the author.

extent of devolution and other characteristics of the regions under consideration. Therefore there has not been the same motivation for the early setting of a common framework for regional accounts internationally (although this is not the case for the EEC where there is a need for comparability between regions of different member countries). Nevertheless, the development of a set of SNA guidelines and recommendations concerning regional accounts would be welcomed to provide both a spur and a common basis for regional accounting estimates.

Although the set of policy instruments available at the State level in Australia is somewhat different from that at the national level, it would seem that a national accounting type framework is desirable for the consideration of State performance and policies. Being a federal system, the State governments have some stabilisation roles via State budgetary measures. Further, where the regions under consideration are as large and diverse as the Australian States, both inter-industry flow information and aggregate demand information disaggregated into its component parts provide useful insights into the economies of those regions. In addition, a dissection of the national accounts into a State dimension gives information that is useful in Commonwealth government policy formulation and other analyses at the national level.

2. Concepts, Definitions and Classifications

The basic concepts of a national accounting system can be considered in terms of the transactors and the transactions involved in economic activity and of the accounting structure used for their representation.

Transactors of the system can be grouped differently so as to meet the specific needs of particular parts of the system. At the national level two broad groupings are used:

—one is relevant in the context of flows of goods and services and underlies the production, consumption and capital expenditure accounts of the system. Producer and consumer units may be differentiated, and both may be described as "establishment-type" units. Of principal interest are producer units—units where decisions relating to production matters are made;

—the other is relevant in the context of flows of finance; producer and consumer units are grouped to form financing or "enterprise-type" units—units where financing decisions are taken. The enterprise is the unit underlying the income and outlay and capital finance accounts (including the current and capital accounts of the rest of the world) and balance sheet accounts.

At the national level, resident producers (consisting of industries, producers of government services and producers of private non-profit services to households) are defined such that all, and solely, production taking place on the domestic territory is included. In practice a large majority of financing units involved in production can be equated with a single producer unit operating from a single physical location. When considered in the context of State accounts such units generally do not present any statistical problems over and above those that occur at the national level.

The remaining financing units involved in production cannot be identified with a single producer unit and single physical location. Often large and complex in organization, such financing units may be composed of producer units from many industries operating from many physical locations in more than one State. Although relatively small in number these financing units and their component producer units contribute a significant part of total production in Australia.

For many of the multi-State financing units it is possible to readily define single physical location, or at least State-level, producer units. To the extent that statistical collections can be based on such units and suitable conventions devised to attribute the operating surplus of the enterprise to individual producer units, they do not present particular problems for State production accounts. However, particularly for some industries, there can be significant problems in defining meaningful producer units that do not transcend State boundaries. In the context of gross domestic product estimates by State, two major issues require resolution so far as resident producers are concerned. First, the concept of the State domestic territory needs to be clarified. This is taken up in section 3. Second, for those enterprises for which it is not practical to delineate single-State establishment units, a decision is required as to whether their activities should be treated as outside the boundary of individual State production; if not, choices must be made on how to allocate data items related to such activities by State. These issues are discussed in section 4.

The definitions and treatments of transactions do not, in general, warrant special attention. However, specific mention might be made of the allocation of indirect taxes and subsidies. The producer unit's gross product at market prices is defined as the difference between the market values of its output and intermediate inputs. The unit's gross product at factor cost is derived by adding any subsidies received and deducting all indirect taxes paid. It follows that the relevant basis for the adjustment from factor cost to market price gross domestic product is the State of residence of the producer establishment unit which receives the subsidy or pays the tax, regardless of who the ultimate beneficiary of a subsidy or bearer of an indirect tax is, or was meant to be.[1]

Section 5 discusses issues that arise in connection with the consumer unit. In particular, a major issue arises with regard to the appropriate treatment of the consumption expenditure of the Commonwealth general government sub-sector.

Where the financing unit transcends State boundaries, special problems are created for State accounts because of the absence of a meaningful enterprise unit

[1]This is not to say that a tabulation of indirect taxes and subsidies according to which State is the ultimate bearer or beneficiary would not be of particular interest in its own right. For this purpose, an allocation of indirect taxes and subsidies according to the States purchasing the final goods and services on which the taxes were levied and subsidies were given might be useful. Estimates using this method of allocation are included as part of the U.K. regional accounts (2). Such an allocation yields, in effect, a decomposition of the expenditure side of the domestic production account. However, the final consumers or investors need not necessarily be the ultimate bearers or beneficiaries. In addition, while some taxes can be readily identified with final expenditure, others, such as non-commodity taxes (e.g. rates and land taxes) and commodity taxes on intermediate consumption of producers (e.g. petrol excise duty paid by businesses) are not. The view taken as to the extent to which indirect taxes and subsidies are passed on to final consumers is a matter for economic analysis.

at the State level. This paper does not consider the financing unit further except for a brief discussion in section 6.

3. The State Domestic Territory

The major part of "domestic territory" is simply and unambiguously defined. However, important boundary problems arise when defining both the national domestic territory and the State domestic territory. In particular, they arise when economic activities involve the territory of more than one sovereign entity or take place in international waters or airspace or in places of limited sovereignty.

The SNA (para 5.112) defines the domestic territory of a nation to include its embassies, consulates and military establishments located on the soil of another sovereign entity. Data for the associated activity could be excluded from individual State product on the grounds that they are not situated on the domestic territory of individual States. Such a treatment is commonly followed overseas and underlies the State estimates for Australia. The alternative approach of regarding them as residents of all States would require prorating data in respect of them across States on the basis of a general indicator such as population.[2]

Non-financial assets and related production are normally attributed to the country of location. With non-mobile capital assets this treatment is generally unambiguous although where the legal ownership is vested in a resident of another country it is necessary to impute a resident producer in the country of location. On the other hand mobile capital assets and their related production need not be restricted to a single domestic territory or indeed to any territory.

The national accounting convention is to treat the following mobile capital assets of a nation as part of the domestic territory of that nation (SNA paras 5.100–5.102):

—ships and aircraft operated by resident enterprises predominantly between two or more countries;

—fishing fleets, vessels and floating platforms operated by resident enterprises wholly, or mainly, in international waters;

—fishing fleets, oil and natural gas rigs and platforms operating in "exclusive rights" areas.

As with non-mobile assets, the SNA justifies the inclusion of these assets as part of the domestic territory of the nation in question on the grounds that their operation will generally tend to be subject to the laws and regulations of that country and their production will be more closely linked to that nation's economy than to others. However, for much of the associated productive activity, sovereignty, or aspects of sovereignty, remain vested at the national, rather than the State, level. As a consequence, the meaning and relevance of attributing this production to individual States is questionable. Possible conceptual treatments at the State level of particular types of asset are discussed below.

[2]State government representation in other States or overseas could perhaps be treated as part of the domestic territory of the State in question in the same way as embassies etc. located overseas are at the national level. However, the notion of sovereignty over these offices does not really apply with the same force at the State level.

Where ships or aircraft are operated by a resident enterprise of a State primarily between two or more countries, it might be regarded as appropriate to adopt an analogous treatment at the State level. However, most enterprises providing shipping or air services between two or more countries will tend to be national carriers. In such cases, it might therefore be argued that the international in-flight/en route activities should be regarded as extra-territorial; that is, part of national production but excluded from the production of individual States. On the other hand, it might be argued that the in-flight/en route element of the production arising from an overseas flight or passage of a national carrier should be allocated to the States involved in the operation of that flight or passage. The former, extra-territorial, approach has perhaps more conceptual appeal. However, isolating data in respect of overseas operations from domestic operations would be extremely difficult. An approximation to the latter approach is implicit in the Australian State accounts estimates. (See section 4(b) below.)

Where an enterprise which is a resident of only one State operates ships or aircraft between two or more States, it may be reaonable to treat the in-flight/en route activity as part of the domestic territory of the State of residence of the operator. Rules have been devised for Australia to determine when and on what basis an enterprise's operations in other States should be treated as operations of separate establishment units.

Activities in waters over which Australia exercises a jurisdiction are attributed to Australia. Similarly, it could be argued that if an activity in such an area is closely associated with a particular State economy it should be attributed to that State. Oil and natural gas rigs and platforms operating within Australia's territorial seas (3 mile limit) have therefore been allocated to the adjacent State since they will be subject to the laws and regulations of that State and are likely to be closely linked with that State's economy.

In the case of such activities in the exclusive economic zone beyond the 3 mile limit, an extra-territorial treatment might be adopted since the Commonwealth has overall responsibility for them. the United Kingdom regional accounts (2) delineate a separate continental shelf region to encompass U.K. North Sea oil activity because of the large scale of operations involved, and because this activity cannot be identified exclusively (or even predominantly) with any of the pre-existing regions.

Alternatively, to the extent that day-to-day administration of these areas has been delegated to individual States, such activities might be allocated to the States concerned. This is the approach that has been adopted in the Australian State accounts. It is in line with the establishment units in ABS mining censuses.

In view of its mobile nature, it is convenient to allocate production and value added of fishing fleets and other vessels to the State of the base of operations (regardless of whether other States and the Commonwealth may be responsible for the administration of a particular fishing ground and regardless whether the operations may be in international waters). The ABS establishment unit in the case of fishing fleets relates to the relatively permanent base of operations (even in cases where the link may be rather tenuous).

4. The Producer Unit

The problems associated with producers operating across international borders do not assume the same significance at the national level as does their counterpart in a State accounts context, especially in the case of a geographically insular country, such as Australia. In some cases the delineation of appropriate establishment units at the State level can involve significant difficulties. To consider these issues the definition of the establishment used in Australian statistics is first outlined. For some industries the ABS definition may result in statistics covering activites in more than one State. For these industries the implications for State accounts are then discussed.

(a) *The Establishment Unit in Australian Statistics*

ABS establishment unit definitions reflect a desire for a minimum of artificiality consistent with the needs that establishment data must meet. They are thus defined on the basis of both conceptual and practical considerations and hence differ according to context. Three establishment unit definitions are used. These are:

—single physical location—all the operations of an enterprise conducted at or from a single physical location;

—enterprise/State/industry—all the operations of an enterprise conducted at or from all of its locations in a State/Territory predominantly engaged in activities primary to a given industry;

—enterprise/industry—all the operations of an enterprise conducted at or from all of its locations in Australia predominantly engaged in activities primary to a given industry.

The concept of a single physical location encompasses the notion of a "base of operations", which is relevant in situations where operations are carried out by a mobile workforce. Accordingly, in certain industries where mobile workforces exist, such as fishing and construction, a single physical location establishment unit applies even though most of its economic activity does not take place within the confines of that location.

The gross product of administrative offices and ancillary units should be allocated to the States in which they are situated, while the cost of the services they provide should be taken into account in determining the gross product of the establishments they serve.

Certain data, such as employment, wages and salaries, capital expenditure and stocks can be collected in respect of individual location units, and hence satisfy some of the requirements for small area, including State, statistics. Value added and gross operating surplus, however, will often not be measured within business accounting systems at the individual location level. It is therefore not always possible to define establishments as single physical location units. At a practical level, it is an essential characteristic of an establishment unit that it be possible to measure, or satisfactorily impute, all of the inputs to the productive process as well as the outputs produced, otherwise measures of value added and gross operating surplus will not be meaningful. In certain industries many firms may not be able to provide (on a conceptually acceptable basis) much of the data that would be required in respect of single physical locations. For example, multi-location road freight transport firms will typically allocate revenue to the location initiating a contract. Therefore, for certain industries it has been necessary to adopt enterprise/State/industry or enterprise/industry establishment units. For industries where the enterprise/industry establishment unit applies, value added and gross operating surplus data by State are not available in respect of multi-State enterprises (i.e. enterprises with locations of a non-ancillary or administrative nature in more than one State).

Enterprise/industry establishment units apply in the following ASIC (Australian Standard Industrial Classification) (3), (4) industries:

	Division G—Transport and Storage
Group 511	Road Freight Transport
Class 5121	Long Distance Bus Transport
Sub-division 52	Rail Transport
Sub-division 53	Water Transport (excluding Class 5309—Inland Water Transport)
Sub-division 54	Air Transport
Sub-division 55	Other Transport
Class 5711	Motor Vehicle Hire
Class 5730	Services to Air Transport
Class 5742	Freight Forwarding (Except Road)
	Division H—Communication
	Division J—Public Administration and Defence
Class 7220	Defence
	Division K—Community Services
Class 8461	Research and Scientific Institutions

(b) *The Establishment Unit and State Accounts*

Both the transport industry and the communication industry pose special problems for State accounts. Both industries are discussed in detail later in this Section. The defence and research and scientific institutions industry classes pose fewer problems in the context of gross domestic product estimates by State. Research and scientific institutions are, for the most part, producers of non-profit services. The gross output of producers of government services and other non-profit services is, by convention, measured at cost; that is, no net operating surplus is imputed. Gross product is therefore equivalent to wages, salaries and supplements plus depreciation. In the case of the research and scientific institutions industry class these items are readily attributable to States. Defence sector wages, salaries and supplements are somewhat more problematic. The notion of defence industry product is difficult to define in a regional accounting context. However, similar to the ASIC treatment of other industries with mobile workforces, these have been allocated by State according to the normal "base of operations". (In the case of naval activities, in particular, the relevance of a "base of operations" is open to question.)

For the various transport industries identified above and for the communication industry a basis is required whereby aggregates such as gross operating surplus and value added in respect of non-State-specific establishments can be appropriately represented. One approach would be for the accounting framework to acknowledge the non-State-specific character of such estimates. The activities of the individual establishments concerned would thus be regarded as extra-territorial. However, for certain interstate comparisons it might be considered more appropriate to exclude the industries concerned altogether. Because of the practical difficulties involved, Sourrouille (5) suggests the inclusion of inter-regional transport in an imaginary region. For example, in The Netherlands (6), the activity of ocean and coastal water transport and of airlines, except for the administrative services located within the country, are treated as extra-territorial at the regional level. Ocean transport, air transport, rail transport and telecommunications are similarly allocated to an extra county in the Norwegian national accounts by county, although only in respect of the non-wages element of value added [7]. However, for the Norwegian regional accounts for 1983 the extra county solution for railway transport and telecommunications is being discontinued. Finland (8) also adopts an extra-territorial treatment for part of the transport sector. Alternatively, conventions could be established for the identification of notional State-level producer units. Such units would be notional because of the non-availability of gross operating surplus and value added data in respect of them, no matter what conventions underlie the delineation of the units. This last method is preferred and will now be discussed.

Value added and gross operating surplus imputations in respect of these notional State-level producer units can only be derived at an aggregate level (i.e. across all such units within a given industry) through the use of indirect allocators. Depending upon the assessed robustness of such allocators, this approach has the distinct advantage of comprehensive coverage of State production activities. This could be very important in interstate comparisons if the activities of the establishments or industries concerned are more important in some States compared to others. It is recognized that imputation of relevant trade flows on the expenditure side of the production account would be made more difficult. In order to be able to evaluate particular allocators a discussion of the appropriate conceptual basis for these notional producer units is first necessary. The approach of the SNA for delineating multi-national units provides a useful starting point.

Where producers operate across international borders the SNA (paras 5.103-105) recommends the delineation of resident producer units with the allocation of production and factor incomes to the country in which production takes place. The costs and proceeds of these units are to be calculated as if they are bought and sold at market prices even though in fact part, most, or all of what they receive from, or transfer to, the other units of the complex of which they are members, are omitted from their records or entered only at nominal value.

At the State level, the allocation of value added in production and factor incomes according to the States where the production takes place would also seem appropriate as a general principle. However, where a producer operates across international borders, the revenue and expense items which should be attributed to its operations in a particular country will normally be broadly consistent with the coverage of that country's income tax and therefore this will generally ensure that relevant statistical aggregates are available. In contrast, the revenue and expense items appropriate to a producer's operations in a particular State are not so readily identified. Revenue and expense imputations would often be necessary for the delineated units.

Even where data are available in respect of the delineated units they would often not be at market values, thereby requiring adjustments for State accounts purposes.

The allocation of investment expenditures in transportable fixed assets employed in more than one State to the State of head office of an enterprise (the SNA recommendation at the national level) appears generally to be inappropriate. An allocation of investment (and depreciation) according to the States in which the assets are used, or the State in which the assets are based, would be more meaningful. In the case of motor vehicles the Norwegian practice is to use their region of registration.

Possible bases for the delineation of the multi-State activities of the transport and communication industries are considered below.

(i) Transport

To the extent that data are collected in terms of State-specific establishment units the problem of delineating multi-State activity is resolved at the point of data collection. For data in respect of non-State-specific establishment units, the problem of delineation is resolved (if resolved at all) by either the statistical analyst or by the final user of the statistics.

In practice, attributing the mult-State activities of transport enterprises to specific States presents significant statistical difficulties. These difficulties are analogous to those that occur at the national level with international carriers but at the State level they are considerably exacerbated. Taxation and other sovereignty considerations require international carriers to adopt conventions in their accounting practices and to comply with national administrative requirements such as the registration of movable assets (aircraft, ships, etc.) which also facilitate attributing the activities of these carriers by country. At the State level these considerations generally do not apply. Consequently, the accounting conventions adopted by businesses generally do not require the meaningful delineation of revenues and expense items such as en route costs to individual State-specific establishment units.

Within the transport industry it has generally not been possible to delineate establishment units in terms of single physical locations because of the problem of attributing activities to such units. For selected ASIC industry classes such as taxis the ABS has used the single physical location as the basis of the establishment unit. For some other industry classes, e.g. water transport terminals and short distance bus transport, an enterprise/State/industry establishment unit has been possible so that reliable State data can also be obtained from information collected in respect of these areas of transport. However, for the major part of the transport industry the adoption of an enterprise/industry establishment unit has been necessary. It is still the case that for the industries where an enterprise/industry unit applies, value added and gross operating surplus data at the State level may be collected for the significant number of individual transport establishments which have locations solely within the one State. However, non-State-specific establishment units are also a significant part of the industry. On the basis of a large scale transport industry survey carried out in respect of 1983–84, it is estimated that some 33 percent of total value added of modal transport enterprises in Australia related to multi-State establishment units.

In concept, notional State-level producer units could be delineated. This would require the adoption of conventions whereby revenue shares and expenses of en route activities could be allocated back in some way to individual producer units. Following the approach adopted in the SNA, revenues and expenses should be allocated according to the involvement of the individual producer units in the activity. Consistent with this would be the allocation of wages, salaries and supplements to the producer units at which employees are based. However, the choice of conventions for the allocation of gross operating surplus and value added is not so straightforward.

Where ships and aircraft are operated by Australia-wide enterprises predominantly between two or more States, it can be argued that the in-flight/en route element of such interstate operations should be allocated to the States involved. This implies attributing a producer unit to each such State. Where a flight between States utilizes the airspace of another, all in-flight activity is best regarded as occurring on the domestic territory of the States of departure and arrival only. Using such an approach, in-flight revenues and expenses would need to be allocated in some way to the delineated producer units in the States of arrival and departure. The situation becomes more complex when a ship or aircraft operates both interstate and overseas.

The present ABS gross operating surplus (GOS) estimates for several individual transport industries are allocated on various bases that may be regarded as approximating to varying degrees the notional State producer basis outlined above. These include the use of aggregate numbers of passengers or tonnes of freight carried and passenger-kilometres or tonne-kilometres by State for the individual industries involved. A similar approach has been adopted in the recent U.S. estimates (9). The results of the 1983–84 ABS transport survey will enable several refinements to the allocation of GOS to be undertaken. In particular, for those industries where non-State-specific establishment units are in a minority the allocation of GOS of the subset of non-State-specific establishments on the basis of wages and salaries or employment will be considered.

(ii) Communication

In Australia, all significant communication industry activity relates to multi-State establishment units. If this activity is to be allocated by State it is apparent that value added should be attributed more widely than to just the State where the letter, phone call, telex, etc. originates. Facilities and labour are employed throughout the network.

The notional resident producer units of a State that could be delineated would consist of the various network nodes located in that State. Revenues and expenses, either actual or imputed, associated with the node-connecting network would then need to be allocated to the nodal points. Private final consumption expenditure of households or intermediate consumption expenditure of producers on communication services would, of course, be allocated to the State paying for the service (normally the point of origin). That part of the expenditure not contributed to directly by production of the delineated notional domestic producer units would be treated as an import of a service.

However, data sources available for the estimation of communication GOS by State generally preclude a close approximation to the notional State producer unit basis. GOS is allocated in Australia on a "where originates" basis.

5. The Consumer Unit

(a) *General Government: Commonwealth Authorities*

Three distinct alternatives may be considered for the treatment of the final expenditures of the Commonwealth general government subsector taking place within a State.

Within the national accounts the government itself is regarded as the final consumer of almost all the goods and services it produces. This is because almost all its output is not marketed; control over the allocation of its output rests with the government. At the State level it might therefore be considered that the consumer unit is supra-State. Under this alternative Commonwealth final consumption expenditure actually incurred (in practice, probably on a cash, rather than the preferred accruals, basis) in a State would be regarded as a sale to an extra-territorial sector. This is the approach adopted in The Netherlands regional accounts.

A variant of this approach, recommended by Sourrouille, would be to regard the central general government as extra-territorial in all respects; that is, to separate out, and allocate to, a separate region, its production, consumption and capital formation. Such an approach would avoid any practical allocation problems and might be argued for on the grounds that the Commonwealth's activities in a State are generally a consequence of decisions taken outside that State. However, a similar argument could be applied to multi-State enterprises. A significant part of Commonwealth general government gross product (which, by convention, is measured as the value of wages, salaries and supplements paid plus depreciation, since general government output is, for the most part, not marketed) is actually derived in the States; for example, at Commonwealth Employment Service offices and Department of Social Security offices. Treating these important activities as not part of State domestic product would result in major shortcomings in State domestic product data for most purposes. Enterprise/State/industry or single physical location establishment units apply in ASIC for all Commonwealth general government activities (with the exception of defence, which was discussed above).

A second alternative treatment, adopted by Canada (10), Norway and British Columbia (11), would be to treat the central general government, in its role as consumer, as a resident of all regions. Its final consumption expenditure would therefore be attributed to regions according to expenditure actually incurred in each region. Instead of regarding the expenditure in a region as a sale to an extra-territorial sector as in the first alternative above, it would be regarded as a direct expenditure of that region. (Certain central government consumption expenditures, such as on defence and embassies, are commonly treated as extra-territorial.) Using this approach a large element of final consumption would be attributed to the Australian Capital Territory, where most Commonwealth general government activities take place.[3]

A third alternative also deserves consideration. Ultimately, the benefit from central general government expenditures must accrue to the residents of the regions. Therefore, in the context of regional accounts, they might be regarded as the final consumers. Consequently, general government services collectively consumed by all residents of a nation (for example, Treasury final expenditures, defence spending and central bank operations) would require an allocation to States to reflect this. A "where incurred" basis would remain appropriate for goods and services of more direct local benefit (for example, Commonwealth Employment Service offices). This third alternative would result in a large volume of exports of services from the Australian Capital Territory to the States. Detracting from this approach would be the large number of imputations required and the high probability that arbitrary allocators (e.g. population) would need to be employed in many instances.

In principle, the "collective consumption" basis might be preferred. However, given the large number of arbitrary allocators that would be required, a "where incurred" basis, with perhaps an allocation of "head office" type expenditures, would seem preferable. Given the fact that there are no separate State currencies and therefore no necessity to closely monitor the balance of payments position of individual States the choice between a "where incurred" and "extra-territorial" approach is not likely to be particularly consequential. One method would be readily deducible from the other.

(b) *Households*

Individuals are regarded as residents of the country in which they are living provided their "general centre of interest"[4] lies in that country. Foreign tourists and business travellers who are to be in the given country for periods of less than one year are regarded as non-residents. Border workers are regarded as residents of the country in which they live rather than work. Workers who are in the given country on a seasonal basis only are not treated as residents of that country.

The same notion of residence would seem appropriate at the State level, although an individual's identification with a particular State will often not be as strong as his/her national identification.

Households/individuals are associated with the domestic production account via their activities as: owners of unincorporated enterprises and dwellings; wage

[3]This would be lessened if the notion of expenditure actually "incurred" in a State were widened to include, in addition to wages, salaries and supplements plus intermediate inputs directly consumed, a share of any departmental central office expenses of a "head office" nature.

[4]The SNA defines the persons whose "general centre of interest" is considered to lie in a country as "all individuals who may be expected to consume goods and services, participate in production and engage in their other economic activities in the domestic territory of a country on a lasting basis" (para 5.115).

and salary earners; and consumers. The first two of these concern production activities and hence the residence of the producer unit is relevant e.g. for purposes of analyzing the income structure of a given area by industrial origin or by type of factor income; the discussion in sections 3 and 4 applies.

Households' activities as consumers concern the final consumption expenditure of resident consumer units. As such, interstate travel expenditures of resident households are regarded as private final consumption expenditure and the import of a service of the State of residence and as the export of a service by the State providing the travel services. Consumption expenditure of border workers should be attributed to the State in which they live.

6. Income and Outlay and Capital Finance Accounts

The relevant statistical unit in connection with the production and capital expenditure accounts is the establishment. On the other hand, the relevant statistical unit for the income and outlay and capital finance accounts (including the current and capital accounts of the rest of the world) is the enterprise. This is because these accounts are involved principally with financial flows. The enterprise unit owns producing units and makes the financial decisions in respect of them.

Household sector and State and local government subsector income and outlay and capital finance accounts are of interest at both the national and State levels. Such accounts present few difficulties as households (including, in almost all instances, their unincorporated enterprises) and State and local governments can fairly readily be ascribed to States according to residence. However, in the corporate trading and financial enterprise sectors there are a significant number of multi-State enterprises. For such enterprises it is questionable whether disaggregation of certain financial flows by State is meaningful. Therefore, income and outlay and capital finance accounts for these sectors are of doubtful usefulness at the State level. The same observation holds true for the Commonwealth general government subsector; major financial decisions are made by national entities.

Appropriate conventions could be fairly readily adopted for the allocation to States of certain income and outlay and capital finance account items for these sectors. For example, Commonwealth general government direct taxes on household income could be allocated according to the States of residence of households paying those taxes; gross fixed capital expenditure could be allocated to the State of establishment where the capital goods concerned are situated (or used or based in the case of transportable fixed assets). However, other items, such as interest and dividends, could not be so appropriately allocated. For such items the result would be an artificial decomposition of the national aggregate. The same does not hold true at the national level, where branches of overseas companies are classified as resident quasi-corporate enterprises of the country in which they are situated. Such branches have to organize their finances somewhat more independently from their overseas parents and their activities are more closely governed by the economy and laws of the country of their location. (For example, they are required to register large mobile assets such as aircraft and ships and to furnish comprehensive financial accounts and are subject to the host country's taxation laws.)

Various alternative conventions for the allocation of the components of corporate profits (income taxes, dividends and retained earnings) are reviewed by Goldberg [12]. The first is an allocation according to shareholder residence. However, such an approach bypasses the corporate unit as a separate entity by attributing its activity on the basis of ownership. A second approach is to attribute all such transactions to the State of head office. While it may be the case that a State with a large percentage of firms having head offices outside the State will have a lesser influence on the course of future development in the State than otherwise, this approach ignores the multi-State nature of the enterprise. A third convention is to employ a weighting of indicators for an enterprise's activities in a State relative to its total operations. For example, most States in the United States levy a corporate income tax, usually assessed on a weighting of State shares of sales, assets and employees (or wages and salaries) applied to total company profits. For his own part, Goldberg regards it as inappropriate to consider corporate sector income and outlay and capital finance accounts at the State level. He goes on to note:

> "The approach of the Illinois accounts is to treat the multi-state corporation as a supra-state entity—its home is the nation as a whole but no state in particular. It is viewed as a separate, viable institution that comes into various boundaried sub-regions of the nation to perform economic activity that yields a profit return. These profits, in their entirety are paid out to this 'foreign' factor of production." (p, 160)

Although the construction of income and outlay accounts for the corporate trading enterprise and financial enterprise institutional sectors and central general government subsector has been undertaken at the sub-national level in some countries (for example, in respect of British Columbia), such accounts are considered inappropriate because of the considerations outlined above.

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