HARMONIZATION OF DATA AND CSME

Linda Hewitt

Introduction

Contemporary issues of sustaining economic and social development amidst changes at both global and regional levels, signal the need for cross cutting measures that will provide information for dealing with a number of socio-economic problems likely to arise from these new developments. A study of 16 Latin American countries (Ganuza, Morley, Robinson, Pineiro and Vos 2003), for example, provides empirical evidence that trade reforms have economy-wide effects that also impact upon the social well being of population groups, even worsening the poverty situation in some cases. Such effects are felt in relation to prices, sectoral output, employment, labour income, household consumption and the labour market. An IDB report however, regards trade liberalization as ‘one of the most controversial issues of our times.’ This view has arisen from an observation of varying distributional outcomes of the gains accruing from trade liberalization. Such policies have been known to impact on the environment as well, giving rise to a need for environmental accounting methods like that recommended by the United Nations (1993) in the handbook, System of Integrated Environmental and Economic Accounting. These cross cutting issues underlie the fact that no one type of data source will suffice in the quest for broad based solutions that will straddle many domains that are impacted upon by macro-economic policy measures.

What now appears to be economic necessities in the form of trading blocks and signed unilateral, bi-lateral and international agreements, carry with them rules and conditions that cause notable fall-outs that adversely affect social groups and the society as a whole. It is generally known that macro economic policies especially, sometimes fail to ensure the well-being of those who fall outside the main sphere of life supporting activities. Households for example may or may not be engaging in formal sector economic activities or may not be producing tradable goods and services to benefit from new developments such as economic and trade reforms. They are rendered outside of the formal market, thus creating problems of social and economic exclusion. At meso and micro levels, economists have begun to examine the effects of economic and trade liberalization policies as demonstrated by Lofgren, Lee and Robinson (2001), and Dessus and Bussolo (1998) among others. The most recent studies have been focusing on determining the association of trade policies with observed rise in poverty levels. Especially vulnerable are the small firms and households, as seen also in the works of Vos, Taylor and de Burros, (2002), and Ganuza, Paes and Vos (2002). In the event that households and small enterprises become eliminated from the mainstream of economic production activities and individuals made to descend into varying poverty states, means of recourse to survival and recovery need to be found. At the same time, environmental issues have been brought into the picture, with concerns about the sustainability
of production and consumption activities and the preservation of natural resource assets. In order to safeguard against these occurrences and redress those which result, appropriate procedures for deriving data and information for analytical purposes, monitoring and evaluation, must be established. This means extending the reach across boundaries that have traditionally separated disciplines, and restricted them to their specialized domains. Whether considering intra or inter effects, the need for harmonization arises as an essential preparatory phase towards the integration of data elements drawn from disparate sources and across disciplines.

The movement within the context of the CSME to integrate dissimilar national factor markets and economies currently existing among CARICOM countries will carry along with it underlying social and economic difficulties yet to be overcome. These will be at national and regional levels and in the relationship with the rest of the world. There are existing territorial and border disputes between member countries and with others not belonging to the integration movement that give rise to all sorts of independent agreements and arrangements parallel to those specified in the CSME charter. A single economy raises macro-economic and co-ordination issues in respect of which data from the 15 member states will need to be harmonized and integrated into a system to serve analytical purposes, policy evaluation and impact assessments. A single market and economy outside of a political integration framework is expected to impose challenges that have to be collectively confronted and overcome for which the building of data systems would be a valuable asset. Such data and information would pertain to all aspects of the social structures, the economies and economic activities pursued by the populations of the individual countries that comprise the region. But the integration of data sets would not be without difficulties. Harmonization and integration of data from different countries and sources will not be an easy undertaking. It would involve in the first instance, determining the availability of data, its quality, scope and periodicity and differences that exist among countries in generating and disseminating such data. Additionally the following procedures must be adopted:

1. The adoption of appropriate frameworks for integrating the different types of data
2. The harmonization of concepts and definitions
3. The adoption of classification systems that have been internationally recommended
4. The adoption of measures to deal with data at macro, meso and micro levels, given size variations among the countries.

Apart from these issues, the CSME will give rise to considerations about the nature and dimensions of markets, relating not only to goods and services, but to labour as well, and to the size and nature of the economies of the countries of the CARICOM region and the differences that exist among them. These differences will involve the application of concepts and the meanings given to them, classification systems used in grouping objects as they would relate to the CSME. Another issue will be that of deriving micro data relating to the small economies and populations that are characteristic of most of the CARICOM countries. These features give rise to concerns about confidentiality and the practicality of micro level analysis and pose further challenges for achieving definitional clarity and the application of procedures for the integration of data from the respective countries.
Among the frameworks that must be employed to deal with eliminating differences and inconsistencies are extended systems of national accounts, social accounting matrices and their more comprehensive extensions into socio-economic accounts to include health, education, environmental and labour sub-modules. These frameworks have made it possible to undertake socio-economic analyses including linkages and the modeling of changes in the economic and social systems, when impacted upon by external developments such as increased poverty following economic shocks.

The Concept of Harmonization and Integration

With the CSME two dimensions of harmonization and integration are to be understood. These are: (1) the systems and processes that define the structure and operation of the markets and economies of the different countries and (2) the existing data systems and their attributes that must provide information about the working of these entities. In relation to the first, the countries of the region have been typified as Small Island Developing States (SIDS) with high vulnerability indexes in both economic and social domains. The relative differences in intensity of such a perceived condition existing among countries must be established towards catering to development needs. Additionally the question of the production markets and nature of economic activity, size of labour force and differences in wages and income assets must also be determined. As applied to data sets derived from different sources, harmonization refers to the removal of differences that are known to exist caused by any or all of the following: (a) varying use of concepts and definitions; (b) absence of a system of grouping objects according to internationally acceptable classification systems; (c) dissimilarities in the units being observed, measured and analyzed; (d) the extent to which coverage of the universe being studied has been achieved and (e) the specific event, for example, census or survey, in respect of which data collection instruments have been applied. It is clear that in the event that any or all of these inconsistencies exist among the data sets, these will have to be removed or at least reduced to minimum levels.

The process by which consistency between sets of data is achieved is referred to as harmonization. Not only in the case of data items, but with respect to the levels to which the data relate, that is, macro, meso or micro, these factors have to be taken into account. The resulting product is an integrated system that shows various types of stocks and flows and the volumes and values associated with them. As demonstrated by Leunis and Altena (1996), in respect of labour accounts, integration accomplishes the objective of achieving coherence and eliminating fragmentation. In order to meet the data needs of the CSME and to deal with the repercussions arising out of this new experience, the various types of data available in each CARICOM country must be determined and an assessment made of the extent to which there is variability between them in terms of the set of criteria stated earlier, and also, with respect to their sources of origin, scope of coverage, units of observation, and reference time periods.

Type and Source of Data Requirement

Types of data that will be immediately required within the context of the CSME, using the Latin American case as an example, can broadly be grouped into those that pertain to various dimensions of the regional integration of markets and economies, to macro-economic co-ordination and to the effects of regional integration (IDB 2002). In another dimension
that focuses directly on the market and the
economy, data requirements will be those that
relate to: production activities and product
flows, types of commodities consumed, the
nature of the factor and product markets,
households, enterprise and government; savings/
investments and the relationship with the rest of
the world. These are normally included in models
that integrate and trace product flows and show
the relationship between the agents that interact
in the marketplace. An illustrated example is that
of Ganguza, Morley, Robinson, Pineiro and Vos’s,
*Is Trade Liberalization Good for Latin
America’s Poor—an application of CGE

Because trade reforms and liberalization are
now being examined with respect to their social
impacts and, in the context of a need to
understand the differences that exist among
countries within the region, data will be needed
that will provide information about: (a)
geography and demographics; (b) socio-
economic profile; (c) nature and characteristic
of the economy; (d) economic sectors and
performance; (e) consumption patterns; (f)
comparative goods and services being traded in
regional and world markets; (g) factor incomes
and assets of households and (h) household living
standards and conditions. As a step towards
building comprehensive national accounting
systems, countries may have started with simple
input/output tables, along with household
surveys, producer surveys, surveys of business
establishments, trade statistics and other types
of information contained in government budgets
and economic performance reviews.

More common types of data that are
collected and maintained by CARICOM
countries are Population and Housing censuses
which, since 1960 have been taken on a regional
basis every ten years. The latter has promoted
the use of common concepts, definitions and
classification systems. National Accounts that are
based on the UN System and, to the extent that
countries have adhered to the guidelines
provided for constituting these systems, share
commonalities. The latest version is the SNA
(UN 1993). Trade data is another area in which
there has been compliance by countries within
the region that requires the adoption/adaptation
of classification systems that have been
internationally established. Difficulties however
arise in the case of data pertaining to social and
socio-economic issues such as: the extent of and
cause of poverty, unemployment, inequality, and
income distribution. Work towards harmonizing
concepts, definitions and classifications in social
statistics, towards producing a common set of
indicators for the Region have only just recently
begun as a result of UNSD/CARICOM joint
support and that of the UNECLAC. The IMF
and World Bank have also been promoting the
use of Data Dissemination System frameworks,
DDS and SDDS that incorporate economic,
social and demographic data, arising out of a
need for organizing data into suitable frameworks
for standardized and harmonized reporting. In
these efforts consideration has been given to the
need to harmonize and integrate the data sets.
The CARICOM has convened workshops and
meetings, in the areas of social and gender
statistics and indicators in order to begin the
process of Harmonization of Concepts and
Definitions.

Already however, we see that these
initiatives need to be coordinated and
harmonized with each other so as not to be
burdensome to data suppliers and be duplicative.
They will therefore best serve the interests of
the countries and region if they become
institutionalized within a common system to serve
information needs and the purpose of measuring
the impact and consequences of new
developments such as the Single Market and
Economy. The situation of poorer groups within
the societies is to be considered. A closer look therefore has to be taken at the conduct of households and other types of social surveys, labour statistics and data pertaining to business enterprises towards establishing regional databases that would enable a composite view of the situation of CARICOM countries at both national and regional levels. A single market can only be realized if ways are found to convert and transform the singular markets of the small economies into a homogenous whole. Thus consideration has to be given to the factor component, the relative size of the labour markets and the characteristics of the work force of the respective countries.

Integrating Frameworks

Insofar as the single market and economy will give rise to a demand for data and information about the economic and social conditions of member states of the CARICOM, there will be need for accounting systems beyond the conventional system of national accounts (The SNA), unto Social Accounting Matrices (SAM) and their extensions. Insofar also as there would be consequences for the social sector arising from economic and trade reform measures, regionally and externally, there would also be the need to cater to/accommodate or offset changes brought about by these developments. The effects of these can best be determined through the process of simulation modeling in repeated scenarios. In this latter instance case studies have been undertaken using computable equilibrium models (CGE models) of which there are several Latin American country applications. The frameworks being utilized for integrating data and linking commodity and relationship flows make use of existing national accounting systems as the basis for the construction of social accounting matrices and their extensions. These extensions more frequently include socio-economic, health, education, labour and environmental accounts. The basic concept is that of a framework whose matrix format enables entries about economic processes, entities and their activities to be represented in money values in an array of rows and columns and be related to each other. The idea of the extensions is to enable social non monetary items to be represented as well, hence the various types of social sector and socio-economic accounts. Concerns about the environment and issues pertaining to the sustainability of economic processes in relation to the use of natural resources, and the protection of the environment from harmful activities have given rise to the development of environmental accounts. Tourism is a major economic sector for most CARICOM countries, subject to repeated vagaries of natural disasters and unstable travel arrangements and therefore in need of continuous statistical accounting.

Examples of Applications

The impetus to harmonization and integration of data systems arose out of the need to exercise economy and cost control in the administration of statistical organizations through utilizing existing data resources by bringing them together into a reliable collective whole. An example is that of the Netherlands as reported by Paul van de Laan (2003). In similar manner as has been done for other unions involving many countries, such as the European Union, the CSME will need to be served by a comprehensive statistical system. In their continuing further development effort, as the CARICOM Region is seeking to do, the European Union has emphatically resolved to develop competitive and dynamic knowledge based economies capable of sustainable economic growth, provision of greater job opportunities and of attaining social cohesion as reported by Keuning and Verbruggen (2003).
In both these national (Kingdom of the Netherlands) and regional (the European Union) examples, the route taken was to utilize the System of National Accounts as a baseline towards building other frameworks such as Social Accounting Matrix (SAM) that represents both economic and social dimensions of the economy. SAMS can be extended to other sub-systems of data pertaining to population demographics, education, health, labour and employment/unemployment and the environment. An example is that of the SESAME (Keuning 1997). These data systems incorporate detailed statistical information and have provision for being extended with social and environmental indicators as well. This system can be applied for a group of countries such as those making up the CARICOM. For this extensive system, data are drawn from many sources. SESAME with its subsystems of SAMS and environmental module (NAMEA) are being used by the European Council, to provide information in the form of structural indicators relating to (a) economic situation and background; (b) employment; (c) innovation and research; (d) economic reform including trade integration, capital formation, prices and (e) social cohesion. The SESAME itself has four basic modules pertaining to (1) national accounts; (2) Research and Development; (3) Environment and (4) Social Accounting Matrix (SAM).

Economic indicator systems have been more traditionally established alongside national accounting systems. However, closer attention must now be paid to the social accounting dimension of the economy. An example is the Netherlands’ layered system of organized statistical data from various sources, from which indicators are derived (Van der Laan 2003). This system is built from personal registers; household surveys and business registers. Files containing data from these sources are linked to provide data in the following domains: demographics, education, employment and earnings and other types-living conditions, housing etc. Final integration of these sets of data is achieved after consistency checks are carried out and corrections made to the data.

**Implied Challenges for Caricom Countries and the Regional Integration Effort of the CSME**

The bonding together of the existing factor markets and economies of the 15 CARICOM member states could not be achieved without a strong information system to facilitate and support the initiative. The CSME extends much more pervasively than anything else the region has attempted and dictates that countries seek to gain a better insight and more intimate knowledge about each other’s economic and social infrastructure and demographics. Central Statistical Offices within the region have been performing roles behind the scenes, against politically driven macro-economic and trade policies and relationships with the external world. But as world events encompassing new economic realities are extended all over the globe, the need for and reliance upon information can be seen. The formation of strong statistical systems entrusted to regional institutions has accompanied unification movements worldwide. In the case of the European Union statistical services are being provided in areas of general statistics, economy and finance, population and social conditions, industry, trade and services, agriculture and fisheries, external trade, transport, environment and energy and science and technology (EUROSTAT 2002-2003 Practical Mini-Guide). It is well understood that with the declaration of a mission to create for itself a dynamic knowledge-based economy, there has been further elevation of the role to be played by statistical systems and the institutions that deliver their output.
As one examines the situation that exists in the CARICOM region, statistical systems that are as yet loosely constituted and fragmented on account of the lack of dedicated resources must be strengthened through greater statistical resolve. Whether derived from administrative processes or from censuses and surveys, data from statistical offices must be organized into coherent systems in order to meet modern day requirements. Strong foundations have been laid in areas such as macro-economic accounting, central banking and trade although these may still need to be brought in line with new developments at an international level. The initiatives more recently begun in the areas of social, gender and environmental statistics augments these conventional systems. In these latter areas, impetus has come from world forums on education (EFA-Education for All 2000), in gender, women and children issues (World Social Summit), in health (WHO) and the environment (UN), in the form of indicators. However, across the region these efforts are still in the infancy stage. There is unevenness across countries in the availability of some conventional forms of data (those derived from administrative records, censuses and household surveys) and they are mostly not organized into coherent systems.

The task of constituting existing data into the types of systems for servicing the CSME and other general information needs will therefore pose challenges. Firstly, an assessment has to be made of data availability and compatibility in respect of their different country origins. At present no SAMS have been constructed for countries of the region to incorporate the number of sub modules identified earlier. National accounting systems which form the base for integrated systems such as the SESAME are not entirely complete in many of the countries within the region. In the case of Trade, the CARICOM has been spearheading the adoption of and compliance with internationally accepted procedures for classification and coding of products and commodities, but the level of adherence is to be determined.

Yet the region cannot afford to forego establishing integrated data systems, both to serve regional purposes and for dealing with developments in the outside world. Globalization and trade liberalization are information oriented in respect of which, certain demands must be met. All aspects and dimensions of the processes and how they impact and affect countries and their populations, nationally or regionally must be determined from a strong position of having the necessary information and knowledge base. So as not to be seen as a purely macro-economic response to the impacts of globalization with its accompanying economic and trade liberalization conditionalities and rules, the CSME must truly seek to make provision for dealing with undesirable impacts. Amidst expected benefits from global market dealings, important questions are being raised about the distributional effects of benefits from the liberalization of trade, investments and technology flows. Will the poor of society become poorer or be joined by impoverished newcomers? Should countries settle for short term gains to be derived from restructuring production systems towards non-tradable goods produced by non-skilled labour intensive industries or services temporarily deployed to construction activities? These questions are already being raised in several countries within the region. There is as well the human resource issue to be taken into account. The engineers of the CSME therefore have to consider these and other issues in the context of the sustainable development of the region, without fall-outs that can wipe out what would have become short run gains. The community will then be stigmatized with a perception that it reacts to external realities in the absence of a clear vision of its
own particular circumstances and that of the member countries that first need to be considered. Evidence of the absence of this common understanding of each other's situation and attributes comes from the more recent inter-territorial upheavals about maritime boundaries and the imposition of trade sanctions contrary to agreed treaties.

Some of the challenges to be faced emerged at the 29th Session held in Brazil in 2002 where issues related to globalization and development and several modes of responses to challenges were discussed. Among these were:

1. Having the capacity to adopt and disseminate new technological paradigms including information technology, bio-technology and genetic engineering. In respect of these, it was contended that there was generally, slowness to respond, within the Latin American and Caribbean region.

2. The existence of innovative systems with the distinct feature of (a) being organized into enterprises with distinguished production systems and (b) involvement in networking with other firms and other type institutions.

3. The state of science and technology.

4. The state of information and communications technology (ICT).

5. The manner in which individual firms respond to challenges of competitiveness and

6. Engagement in micro level relations.

Several parameters were established for assessing the nature of responses countries make to meet the challenges of competitiveness and the manner in which they manage the transition process towards a more open, deregulated and privatized economy. Having efficient markets and well established linkage to dynamic networks with strong institutions were seen as prerequisites that enabled more effective response. With respect to management of the transition process, there must be capabilities to effect

1. Profound transformation of innovation systems (some countries may have had these established during earlier periods of pursuing state-led growth policies).

2. Seek to develop innovation systems by allocating resources for this purpose and establish institutions through which the creation of knowledge based comparative advantages would be pursued. Resources must also be allocated to facilitate the accumulation and diffusion of technological capabilities.

3. Establishing a network of linkages between the different components of the innovation system and.

4. The creation of national networks involving linkage with knowledge producing and diffusing institutions operating outside of the market—this latter being termed an entrepreneurial culture.

Conclusion

This paper has emphasized the data and information response challenges that are essential to the CSME and concludes that in terms of harmonization and integration of data systems to serve these ends, the countries of the CARICOM face a monumental task. This arises from the specific requirements of integrated
information systems for which data from different sources and in this case, from at least 15 member countries will need to be accessed, evaluated and made consistent with each other. Differences will exist pertaining to the meanings given to concepts and the procedures used to group entities into classes for analytical and measurement purposes. Modes of collection, scope, coverage, reference periods and units of analysis must be established. Whilst there are proven methods to remove or at least reduce the dissimilarities, considerable examination and evaluation of each data set must be undertaken, as a preliminary measure. In direct reference to the CSME the data items required at baseline will relate to:

1. Factor markets including costs
2. Product markets including sales and domestic exports
3. Transactions with the rest of the world—imports, exports, foreign capital and savings
4. Institutions including government, enterprises and households
5. Investments, savings, wages, transfers.

Countries of the region that have been maintaining systems of national accounts should have been including the above data items. Since the CSME will essentially be a development that would be taking regional integration to a higher level, the observation made by the IDB (2002), based on the experiences of Latin American countries is instructive. It contends that integration is more than reducing trade barriers and will need facilities for capital flows, accompanied by increased flow of technology. There will be implications for the labour markets, level of wages and the distribution of incomes. There will also be changes in labour demand and requirement for a higher skills component.

Yet another dimension of the integration of data is the use of economic and social indicators. Among the former are those that measure economic performance, namely GDP, employment, capital stock, research and development and the environment. These, together with relevant social indicators are included as components of an integrated data system to serve the monitoring and determination of changes in the situation of countries joined into regional unions such as will be the case with the CSME. A simplified view of recommended options of frameworks to meet the challenges posed and arising out of the need for the harmonization and linking of data in respect of the CSME, would be as follows:
Data integrating mechanisms as obtain in practice in some countries within the European Union consist of the following:

INTEGRATING MECHANISMS

- System of National Accounts
- Social Accounting Matrices (SAMS)
- Extended SAMS (ESAMS)
- SESAME
- Labour Accounts
- Education Accounts
- Health Accounts
- Demographic Accounts
- Environmental Accounts
- Socio-economic Accounts
- Computable General Equilibrium (CGE) Models

It is noteworthy that a “proactive attitude towards scientific and technological knowledge” cited at the CEPAL session, has been associated with best practice examples. Evidence of this is revealed in the public sector sponsorship of university research benefiting the private sector, whilst also promoting basic and applied research in fields such as information and communications technology (ICT). In the CARICOM region, whilst there is evidence that there is a general understanding of the requirements of making development transitions and meeting global challenges, for undetermined reasons, these appear not to be translated into sustained action. However the CARICOM Charter of Civil Society has defined a set of objectives in respect of which, Heads of Governments of countries of the region, at their 2002 conference, declared Information and Communication Technology (ICT) to be a major tool for enhancing and integrating the societies of CARICOM member states, in areas of both economic and social welfare. Social sectors such as health, education, poverty reduction as well as the delivery of public information and governance must be serviced through this means. Each country is expected to pursue an agenda towards developing “internal capacity for communication with its global environment through the use of telecommunications, information technologies and through the products of its content industries,” hitherto referred as a Connectivity Agenda at national and regional levels (CARICOM 2003). It is not difficult therefore, to understand the importance that must be placed upon building data systems in each country and the harmonization and integration of these into a whole in order to service the information needs of the region.
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