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Indicators of Regional Integration: Methodological Issues

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1. Introduction

Regional integration (RI) is a worldwide phenomenon of territorial systems that increase the interactions between their components and create new forms of organisation, co-existing with traditional forms of state-led organization at the national level. The processes of regional integration that emerged after WW II, were originally mostly about trade and economics, but it has become clear that, especially since the 1980s, with the so-called 'new regionalism' wave, regional integration can be seen as a multidimensional process that implies, next to economic cooperation, also dimensions of politics, diplomacy, security, culture, etc.[2]

Nevertheless, trade and economic integration remain a central aspect of ongoing integration scheme's. In today's globalising world there seems to be a growing tension between the quest for global free trade (as managed through the WTO) and the fact that trade liberalisation is more often regionally than multilaterally organised. Indeed, the number of regional integration initiatives is steadily increasing. About 250 RTAs are currently in force. This trend raises the question of what the *impact* of regional integration is, both for the countries involved and for those excluded from a given regional integration scheme. Also, given the fact that the 'new regionalism' is said to have at least the potential to protect countries from possible negative aspects of globalisation (Van Langenhove, 2003), one can wonder how such claims can be assessed.

These issues are linked to broader questions about the future of the international institutional architecture, and whether tendencies may be expected in the direction of multilateralism, regionalism or a (new) combination of both (Fratianni and Pattison, 2001).

Looking for answers to these questions implies that one needs to have tools to *monitor* regional integration and *assess* its impacts. This could be realised through a *system of indicators of regional integration* (SIRI). There is evidence of a growing interest of policy-makers for such a system. The explicit objective to monitor RI processes in ACP countries in the framework of the Cotonou Agreement (European Commission, 2002a, 2002b) and the proposal by the European Central Bank (ECB) to measure institutional and economic integration (Dorrucci *et al.*, 2002), illustrate this point. The Inter-American Development Bank is also considering as one of its prioritary actions within its Strategy on Regional Integration, "gathering, evaluation and dissemination

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[2] See, for example, Hettne (1999).

of compatible data to measure progress in the regional integration effort" (IADB, 2002), whereas ALADI planned the preparation of yearly reports on the evolution of integration in Latin America. Proposals for worldwide systems of indicators on other specific aspects of governance, like the database under construction for the Fiscal Decentralisation Indicators of the World Bank, also suggest the feasibility of such a system.[3] And finally, the African economic integration indicators project at UNECA needs to be mentioned.[4]

Notwithstanding the above-mentioned interesting efforts, a SIRI able to monitor RI worldwide and based upon sound methodological premises does not exist yet. Hence, this paper explores some organisational, conceptual and methodological issues that arise in the process of constructing a SIRI. Also, a proposal regarding dimensions and variables to be included in a SIRI will be advanced.

2. Users and producers of a SIRI

A first issue to tackle is "who" should and could be involved in constructing and operating a SIRI as well as "for whom" a SIRI has to be developed.

Ideally, the construction of a SIRI should not be seen exclusively as an academic project, but also as an exercise in building up a relevant policy instrument. The recent announcement by the European Commission (EC) to monitor the progress of regional integration schemes which involve ACP countries and to condition future resource allocation in terms of demonstrated progress in these processes, is a clear illustration of the scope and importance of such a system and the possibilities of combining an academic interest with political relevance. The announcement of the EC is a logical consequence of the inclusion of regional integration as a goal and means of development and development cooperation in the framework of the Cotonou Agreement.[5]

So, regional organisations are likely candidates for being involved in the construction of a SIRI. Not only because, as in the case of the EC, they want to monitor RI elsewhere but also because regional organisations want to engage in monitoring their own policies. One can also imagine that individual countries could be interested in a SIRI as a tool to monitor the impact of their involvement in regional trade agreements or other regional cooperation schemes on their domestic performances. There are also academic interests in developing a SIRI. For instance, to address the question to what extent regional integration initiatives can help in reducing the possible negative consequences of globalisation. Or: to what extent have regional integration initiatives positive effects on raising the quality of life in a developing region?

The above implies that many different actors can, for different reasons, be interested in a SIRI.

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[3] See, http://www1.worldbank.org/publicsector/decentralization/webfiscal.pdf
[4] Based upon a specific methodological framework (UNECA, 2001), data have been gathered back to 1994, the year the Abuja Treaty came into force. First results have been published in UNECA (2002).
[5] This is the case for articles 28-30 of Section 3 on Regional Cooperation and Integration, as well as for article 22 on Macroeconomic and Structural Reforms and Policies; it is also in accordance with Article 11 of Annex IV of the same Agreement

For cost-efficiency reasons, but also for political reasons, it would be useful to pool resources for the construction of a SIRI. Three types of institutions would be natural candidates for participating in such a project: multilateral institutions (UN, WB, WTO), regional institutions, and the academic sector. In addition, certain interest groups that are operating internationally (NGOs, foundations) could also be interested in participating. Designing and implementing a SIRI will only be successful if conceived as a joint product between "users" and "producers", taking into account input from all relevant stakeholders.

3. General criteria for the implementation of a SIRI

Independently from the choice of overall objectives, dimensions and contents of the system, a whole range of problems are likely to occur at the moment of implementation. These problems range from the difficulty of measuring a specific variable and the quality of a particular data source to the problems related with managing and funding the system.

Other problems relate to the availability, generation and frequency of the data needed to feed the system, and the management of a workable and sustainable system of indicators. Sustainability is likely to involve some degree of co-responsibility from the side of the data generating institutions. The quality of the data is needed to guarantee comparability.

A crucial issue will obviously be the translation of the chosen variables into indicators. Although each variable brings with it its specificities, some general criteria should be identified for selecting appropriate indicators. Especially when systems are multi-dimensional (multi-disciplinary) it is useful to have some generally applicable criteria. Anderson (1991) has offered an example of an attempt to identify such criteria (see, table 1), but it should be noted that, although thought provoking, these criteria were developed in the context of the national economy.

Table 1: Anderson's criteria for choosing "good" economic indicators

	Criteria that SHOULD NOT be used		Criteria that SHOULD be used
1	An indicator should have to carry with it an automatic evaluation.	1	An indicator, or the information it is calculated from, should be already available, or else able to be made available easily and cheaply.
2	An indicator should have a policy instrument which corresponds to it.	2	An indicator should be relatively easy to understand.
3	An indicator has to be new.	3	An indicator, to work at all, must be about something measurable.
4	Proposals for sets of indicators should be based on particular theories of economic, social, and human development.	4	An indicator should measure something believed to be important or significant in its own right, or should reflect or represent something important beyond what the indicator is itself a measurement of (for example, life expectancy figures might be used to indicate the general state of health of the population). This is really what makes something an *indicator*, rather than just a

			statistic.
		5	There should preferably only be a short time-lag between the state of affairs referred to and the indicator becoming available.
		6	An indicator should be based on information which can be used to compare different geographical areas, social groups, etc., so that a picture of distribution –and not just totals and averages—can be built up.
		7	International comparability is desirable.

Source: Anderson (1991:48-51).

If a SIRI is used for comparative research, as would be in the case of an indicator system for monitoring different regional integration processes in the world, a choice is possible between traditional ("comparative") indicators (permitting a direct comparison between regions on their score on a particular variable) and "relative" ("reflexive") indicators (comparing first the performance of each region with its own objectives). The World Bank (2002), for example, favours relative comparisons. A concrete example of a case where both types of indicators are combined is the system of Indices of Economic Integration Effort in Africa (UNECA, 2001:2). In that system two yardsticks are used: (i) the self-defined pre-determined targets for target-driven indicators (if they exist for particular integration groupings), or (ii) an average of the n best performers.

Furthermore, designing an indicator system can be either conceived as an ordered presentation of the values of the selected relevant variables, permitting –for each variable- cross-country or cross-region comparisons and time series analysis, but without establishing explicit weights for the variables and their categories. Or, one can design the system so that it is based on the calculation of aggregate indicators per country, per region and/or per sector. This is when one is confronted with the so-called "index problem". The weighting and aggregation procedures that are designed "pre-process" the data so that the reading by the users is simplified, not necessarily its interpretation. The weighting procedure can be based on statistical criteria (based on the statistical contribution of the variables in the explanation of a goal variable), expert opinion or practical considerations (data availability, lack of knowledge or valid criteria, etc.). In any case, weighting procedures will always be arbitrary to some extent. The World Bank (2002), for example, pointed to the problem of combining indicators applying to different topics or different regional arrangements, and suggests to accompany the quantitative data with qualitative assessments. Although it is attractive to combine both types of indicators, it would be helpful to have more clarity on the specific potential contribution of both and on the borderline between quantitative and qualitative measurements. It should also be borne in mind that qualitative assessments are more difficult to implement (not necessarily, to interpret) in international and intercultural contexts than quantitative ones.[6]

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[6] Although aspects of interculturality also appear at the stage of choosing and weighting the variables in the system, reflecting cross-cultural differences in preferences.

Another choice that has to be made is whether the system should confine itself to descriptive measurements of observable variables or whether a combination is needed of such measurements with analytical information and estimations. The second option makes a SIRI richer for analysis but one is then confronted with the problems of non-standardised methods of analysis, difficulties with the data collection and the complexity involved in the interpretation of the information contained in the system.

4. Concepts of integration

A core issue in the development of a SIRI is the underlying definition of (regional) integration that will be used and how it will be operationalised into dimensions and variables.

The concept of integration refers to a process in which units move from a condition of total or partial isolation towards a complete or partial unification. Applied to the interaction between independent sovereign states, integration refers to a process of large-scale territorial differentiation characterised by the progressive lowering of internal boundaries and the possible rising of new external boundaries. Such complex social transformation may or may not imply some kind of permanent institutional structure. Although integration at the level of states can refer to many different aspects of cooperation, it is mostly used in a context of economy and international trade. Integration then becomes economic integration and can be defined as "the voluntary linking in the economic domain of two or more formerly independent states to the extent that authority over key areas of domestic regulation and policy is shifted to the supranational level" (Mattli, 1999:41). The assessments of "levels of integration" has led to the use of typologies, like in the case of Balassa's stages approach (see below). Although these typologies are attractive and allow to classify countries and regions, it should be clear that in empirical research the first problem is to position the countries or regions in a continuous multi-dimensional "space" which can then (ex-post) be "compartmentalised", more or less successfully.

Obviously, no unique definition of integration is available in the literature, so that here too important choices need to be made. The designers of a SIRI (from the academic world or from policy institutions), will have to make these choices as a necessary pre-condition for the construction of the system. The definition of integration will almost necessarily imply that other related concepts will have to be defined also. These include, for example, cooperation and coordination.[7]

It should be stressed that the delimitation of the concept of integration and the scope of the information system is not an exclusively academic exercise. Ultimately, the builders and users of the system will have to make the key decisions on the basis also of political and practical considerations. Therefore the discussion below is limited only to giving some orientations for the definition of the concept and will not present a particular and exclusive definition yet.

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[7] Recently, for example, the problem of conceptualisation has been illustrated very well in the context of the discussions about the RCRP proposal of the European Commission. The World Bank (2002), proposed to distinguish between "integration" and "cooperation" on the basis of the degree of sovereignty that countries agree to transfer to supranational institutions, but recognised that the borderline is not clear-cut. The Commission itself proposed a category of inter-state interaction called "functional regional cooperation" (see below).

Often, regional integration is presented as a location in a spectrum of forms of interaction between states. In Dobson's spectrum, for example, integration is presented as the most intense form of inter-state interaction, involving common policies among states (Dobson, 1991). This way of presenting the phenomenon of integration has the advantage to show how it is positioned vis-à-vis other forms of interaction, but does not necessarily clarify when cooperation becomes integration.[8] In this framework, integration is opposed to conflict, and independence occupies a central place. However, one might argue that both conflict and integration imply interaction, so that interaction (voluntary or non-voluntary merger, in its extreme appearance) should rather be opposed to independence, conflict and integration being (negative and positive) expressions of interaction (figure 2).[9] For Greif (1997), integration has to be seen as the opposite of segregation.

Figure 1: Dobson's "Policy Conflict-Independence-Integration" Spectrum
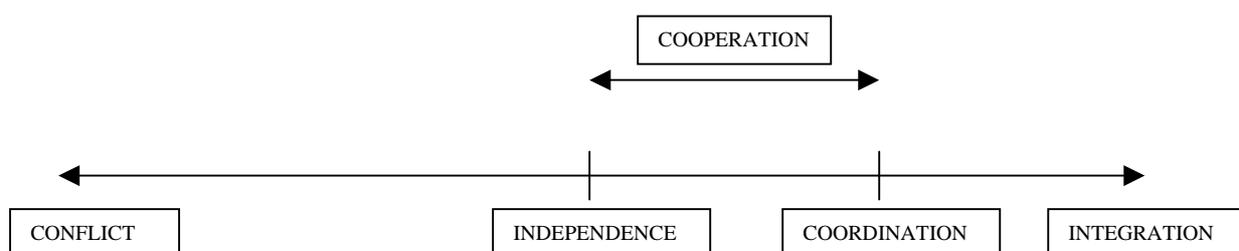
Source: Dobson (1991:3).

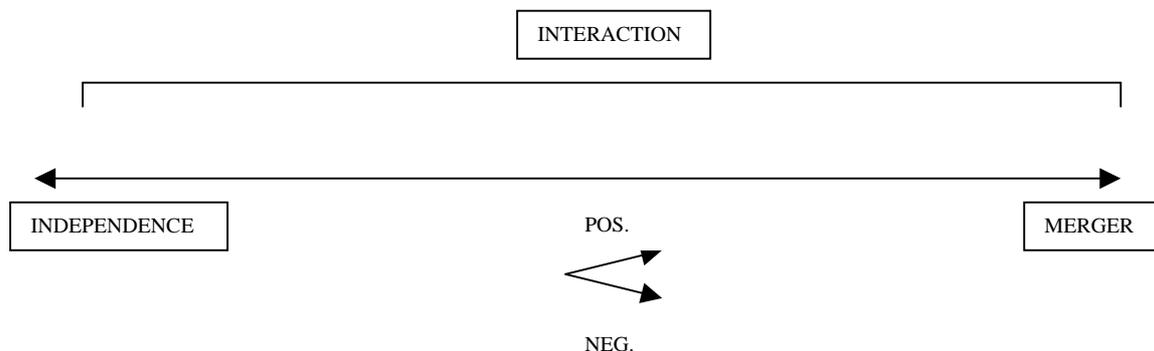[8] The most intense form of cooperation, namely policy coordination, refers to the coordination of common objectives, of the choice, amplitude and moment of the policy measures, or the exchange of policy information, expectations and economic structures (Van Velden, 1988:1).
[9] "Positive" and "negative" is used here in its usual sense, not in the sense suggested by Tinbergen, see below.

Figure 2: The independence-interaction spectrum

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                        ┌──────────────┐
                        │ INTERACTION  │
                        └──────────────┘
    ┌──────────────────────────────────────────────────────────┐
    │                                                            │

  ◄─────────────────────────────────────────────────────────────►

┌──────────────┐                    POS.                  ┌──────────┐
│ INDEPENDENCE │                                           │  MERGER  │
└──────────────┘                     ↗                     └──────────┘
                                    ◄
                                     ↘
                                    NEG.
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The problem of delimiting exactly the phenomenon has also to do with the fact that integration itself is usually presented as a process with changing characteristics. Since long it has been established that integration can refer to both "states" and "processes" (Balassa, 1962:1), but all the implications of this for the construction of a SIRI should be analysed. Because of the nature of the phenomenon, a SIRI should be able to monitor the process. It should not be forgotten, however, that within the integration processes there are significant qualitative steps, breakpoints, accelerations or crises that deserve to be addressed. Around these crucial "moments" within the process, evaluations of the type "before/after", as suggested by the static view of integration, are possible and useful.

A SIRI should also be sufficiently flexible to consider processes that are characterised by a tendency towards integration, but allowing for phases of stagnation or even temporary disintegration.

Another issue consists of the duality between "formal" and "informal", or "real", integration. In Ondarts' typology (Ondarts, 1992:6), "real" is opposed to "formal" or "institutionalised", meaning "based on formal agreements and discourses"; it is not opposed to "monetary" or "financial" like in international economics.[10] Formal and real integration can be thought of as two parallel processes which are relatively autonomous, the first does not necessarily imply the second, nor vice versa. Formal integration will be usually state-led, while the so-called real integration can be occurring without much interference from states.

We are not inclined to use the term "real integration". In a way, it suggests that formal, institutionalised integration is necessarily an "empty box", which in reality is not or only partly the case. There is at least an effect on the political debate, vocabulary and leadership, and on the collective consciousness and imagination; but usually it goes much further than that.

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[10] Ondarts (1992) disaggregates the category of formal integration further into integration "by treaty" and formal integration in sensu stricto. The latter category implies the creation of supranational entities that start to coordinate the integration process with certain autonomy.

The concept of interdependence is related to what is meant by "real" integration. According to Cooper (1985), interdependence should be understood as a special case of "openness". Openness becomes interdependence when the entity (country) under consideration suffers the feed-back effects of the consequences of its own policies for the rest of the world or region. It is more than "mutual" dependence, a situation whereby two entities (countries) have two-way economic relations and whereby an economic cost would occur if these relations would cease to exist. Whereas mutual dependence depends normally on the transaction volumes, interdependence would rather refer to marginal dependence from (two-way) economic relations (Cooper, 1985:1198).[11] Interdependence is likely to become a more relevant concept for small countries in a regional rather than in a global context.

One should be aware, however, that formal/institutionalised integration can also have a direct impact on interdependence, through the creation of supranational policy institutions.

In the research programme on the so-called "new regionalism" (Hettne, 1999) and the literature on growth circles (Thant, Tang and Kakazu, 1994), real integration is also emphasized. It reminds us also that integration should not necessarily be seen as a form of inter-state interaction, but that the geo-political actors involved might well be sub-national (regional) actors.[12] A SIRI that is able to monitor such different modalities of integration would be superior to one that is not.

However, in order to avoid that a SIRI becomes too abstract and irrelevant, the system will have to be restricted to regions that have been institutionalised, albeit in a minimal way, or at least explicitly recognised as such by relevant actors (public authorities, political movements, business communities, international community, etc.). In this regard, one can refer to the different levels of "regionness" as identified by Hettne and Söderbaum (2000) and determine a minimum level of regionness necessary to qualify for the application of a SIRI, provided that this concept can be satisfactorily operationalised.

A mechanical identification of "real regions", based on indicators of interdependence and homogeneity, is probably not a sound basis for the selection of the regions in the system, as the system would be less policy relevant and some of these regions might lack sense, politically speaking. However, one should be aware of the possibility that in top-down approaches to micro-regions used by certain international organisations, institutional recognition might follow a more or less mechanical identification of the region. For example in the case of growth triangles, we have the impression that this is not uncommon. In these cases, an ex post justification in terms of historical relations (and what does history not prove?), cultural proximity, etc., is usually not too difficult neither.[13]

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[11] The author makes further the distinction between four forms of interdependence: (i) structural interdependence, (ii) interdependence between (economic) policy objectives, (iii) interdependence between exogenous variables, and (iv) political interdependence (Cooper, 1985:1199-1200). As far as the measurement of the degree of interdependence is concerned, he adopts the distinction between vulnerability and sensitivity from Keohane and Nye (1977).

[12] See, for example, Hettne (1999).

[13] The ZMM-GT might be an example of this (Slocum et al., 2003).

Indicators in a SIRI should also (be restricted to) reflect the specific characteristics of the integration process. Variables that describe characteristics of the countries involved should not necessarily be included although they could be part of a background information section in the same system. There is however a large grey zone consisting of variables that are, as such, purely national indicators but that can easily be transformed into indicators of convergence/divergence.[14]

Another group of variables that are in a grey zone, are the variables that belong to political economy approaches to integration, such as: underlying motivations of integration processes[15], role of interest groups, permeability and degree of corruption of regional institutions, etc. Without understanding the underlying motivations of a regional integration effort, it is difficult to evaluate. For example, it would obviously be incorrect to judge the success or failure of pre-AFTA ASEAN on the basis of purely economic criteria.

Finally, a SIRI should be capable to reflect expressions of both "positive" and "negative" integration (Tinbergen, 1954). "Negative" integration refers to the elimination of barriers; "positive" integration refers to the formulation of common policies. It is possible to frame this distinction in a time-dimension. Low levels of integrative ambition (see Best, 1997) usually imply negative integration, whereas high levels of integrative ambition usually imply positive integration. Best (1997:56) rightly points out however that it is difficult to conceive negative integration without a minimum amount of positive measures. Integration should be seen as a varying mixture of both types of measures.

5. The role of theory and the normative and Euro-centred tradition in integration studies

Accepting a workable definition of regional integration allows to delimit the scope of a SIRI but needs to be complemented by choices regarding the theoretical framework used. Decisions on whether to include or not specific variables into a SIRI will also be dependent on the theoretical affinities of the SIRI producers. Although it would be tempting to regard the availability of data as the first criteria, this should be avoided and theory should obviously be the major guiding principle for including variables. A theoretical framework is also needed to decide on how to structure the variables and analyse them. An example of the link between theory and the selection of indicators of regional integration is the ECB proposal to measure economic integration (Dorrucci et al., 2002). In this case, the authors base the choice of indicators of economic integration, and not only monetary integration, on optimum currency area theory (see below).

Integration is a multi-dimensional social phenomenon and its study has generally been undertaken along disciplinary lines. That partly explains why various (sometimes complementary, sometimes competing) theories exist. Our recommendation to give the SIRI a theoretical basis, does not mean that the system should be limited to the variables that constitute a particular theoretical model of integration but rather that the

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[14] As in the case of the COMESA proposal (table 4; COMESA, 2002), this can well be only a matter of presentation (i.e. not involving calculations of convergence indicators).
[15] See, for example, Page (1998) for an exploration of the "real" motivations behind 14 country groupings.

incorporation of each of the variables should be based on a structured and scientific argument. The existence of a variety of theories should not be an obstacle for the construction of a SIRI; eclecticism is inherent to scientific activity. In addition, we agree with Anderson that it might be a sufficient condition for selecting an indicator to be perceived as important by the community of users of the system, without necessarily having a particular theory that corroborates this.

In this context it should also be noted that theories about regional integration are not developed *in abstracto* but are linked to what is happening in the world. As the research on the Single Market, transition issues, the EMU and EU enlargement very well illustrate, the development of integration studies has gone hand in hand with political developments, especially in post-WWII Europe, and is very much a response to the signals emitted by the political centres and actors. That explains the normative tradition in integration studies (Bekemans, Fiorentino and Van Langenhove, 2000:55-57). The problem with normative theory is that the evaluation of the facts (actions, decisions, effects) is reduced to a mechanical application of the model labelling them as positive or negative, progress or decline, functional or dysfunctional, etc.

The stages approach to economic integration, attributed to Balassa (1961), for example, has been extremely influential in academia and lends itself very well for a measurement of "progress" of a particular integration scheme. Those who are familiar with regional integration issues know however that one has to be very prudent in applying mechanically this kind of theoretical schemes; all too often they are confused with general laws governing integration processes. In the real world, simultaneity, inversion and endogeneity is not uncommon. The ECB (Dorrucci et al., 2002) has shown however that Balassa's scheme is perhaps flexible enough to be used in the presence of these phenomena. In other words, using an open and flexible theoretical framework is one of the pre-conditions of a SIRI with wide applicability.

It should be further stressed, that qualifying variables as theoretically relevant, does not imply that the direction of any causal linkages with other variables can be easily established. In many cases there will be uncertainty about the causality and its direction, in some cases there might be a "double" causality and/or feed-back effects. The variables under consideration are part of a complex social system (with simultaneities and chaotic processes) in which causality becomes often difficult to trace or even irrelevant as it will be the social meaning that will be essential.

Best (1997) has rightly pointed to some of these problematic relationships between certain variables in terms of the causal links between them and their direction. For example, although Olson's Logic of Collective Action would suggest a positive relation between the number of countries involved and the difficulties encountered in the decision-making process (Olson, 1965), the real effects of the number of countries also depends on the characteristics of the individual countries and the design of the decision-making process. Majority voting might well have the opposite effect. Best also mentions some other theoretically problematic relationships, including the following: the relation between the scope of coverage of an integration agreement and its stability, the relation between the time-perspective of an arrangement and its stability, and the relation between the degree of real interdependence and the degree of formal integration.

Another (theoretically) problematic relationship is the one between, on the one hand, the degree of structural asymmetries between the members of an integration arrangement, and the stability and impact on economic development of the agreement, on the other.[16] Again using Olson's logic, integration processes built on asymmetric groups where a leading (hegemonic) country perceives enough benefits to justify the provision of the collective good (the integration agreement) would be expected to be the more dynamic and effective ones.[17] This idea can be seen as a regional application and implication of hegemonic stability theory (Keohane, 1980; Kindleberger, 1981; Gilpin, 1987). In a context of developing countries, the World Bank also defends asymmetric integration agreements (Collier et al., 2000). However, Stakhovitz (1991), for example, questioned this thesis on empirical grounds.

6. Methodological and organisational options related to the construction of a SIRI

Next to preciseness in the concepts used and explicitness in the underlying theoretical adherences, one needs to make a number of methodological and organisational decisions in order to further design a SIRI. This will include, choosing between specific or general SIRI's and between the use of area versus country indicators.

Systems can be more or less specific, meaning that they can cover one, a few or many aspects of integration, or that they intend to monitor specific sectors (transport, commerce, agriculture, etc.). Proposals have been made, for example, to design indicator systems for the evaluation of the public-management capacities for regional integration among groups of countries (Best, 1997), or for the measurement of the economic integration effort in Africa (UNECA, 2001, 2002). On the infra-national level, the World Bank designed a system of fiscal decentralisation indicators (World Bank, sd).

The builders of a SIRI will also have to decide upon the relevant level(s) of analysis. A system can be built to monitor the dynamics of a group of (integrating) countries or regions, or it can be built to monitor the participation of individual countries/regions in the integration schemes (individualised effects, policy implementation, etc.). An interesting attempt to build a multi-level SIRI is the indicator project of UNECA (2001) where indices are being estimated on four levels: (i) the country level, (ii) the regional level, (iii) the sectoral level, and (iv) the continental level.

A particular and related problem is that many countries, all over the world, are simultaneously a member of more than one integration arrangement. The African case illustrates this very well (table 2). 45 countries out of 53 are simultaneously member of (at least) three regional integration arrangements. One country (DR Congo) is even member of four arrangements but, paradoxically, it is not known as a particularly active actor in African regional integration. In these cases of overlapping memberships, it might be difficult to separate the effects of different integration

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[16] Structural asymmetries can be distinguished from: (i) asymmetries arising from differences in commitments by the member countries, (ii) asymmetries in the decision-making process and in the organisational design, (iii) asymmetric effects of integration, and (iv) asymmetries embedded in common policies (De Lombaerde, 2002).

[17] For a more recent presentation of club theory and its application to international organisations, see Fratianni and Pattison (2001).

agreements. In addition, it is often the case that the different agreements have similar orientations and that RIAs that involve WTO members, are generally WTO compatible.

Table 2: Overlapping memberships of integration arrangements for African countries

Category	Number of memberships of integration arrangements per country	Number of countries per category
1	0	0
2	1	7
3	2	27
4	3	18
5	4	1*
Total		53

*DR Congo
Source: UNECA (2002)

Considering indicators at the country or the group level has political implications. As observed by the World Bank (2002), the evaluation of a regional arrangement, especially when it involves "rewards" or "sanctions" from the international community (as in the case of the RCRP), should be able to handle asymmetries within the groupings, such as passive or obstructive behaviour by one or a minority of members. This, in turn, can be caused by different factors, such as the occurrence of a conflict in one or more member countries or diverging policy preferences between the coalitions in power in different member countries. In the case of the Cotonou Agreement and the RCRP, the identification of the region as a relevant policy level is imposed from outside and is embodied in the regional strategy papers.

Finally it should be noted that the evaluation of integration policies and their implementation is an essential part of any SIRI. This requires the incorporation of indicators of policy implementation and effects of regional integration. Again, this brings with it several problems:

- The useful distinction between positive and negative integration has been mentioned before. But one should be aware that positive integration might suggest more "policy effort" and be captured as such by many indicators, although nothing assures ex ante that these measures have more important effects than negative integration.
- It is a well know characteristic of empirical research that the observers tend to show a higher sensitivity for observations that tend to confirm the hypothesis or the existence of what is looked for. As far as indicators of integration policies are concerned, the registration of policies and measures might offer a biased view in the sense that simultaneous policies (possibly in other policy areas) in the other direction (revealing disintegration, protectionism, nationalism, etc.) might yield a net progress or not. This the more so because integration policies tend to be common policies, whereas disintegration policies (protectionist reactions) tend to be national. Theoretically, ideal indicators would be net indicators, showing whether a given set of policies and

measures taken during a period of time contribute or not to integration. This kind of indicators is however difficult to construct

- In its discussion of the UNECA methodology, the COMESA Secretariat expressed strong reservations over the methodology used, precisely for the reason that the UNECA indicators do not necessarily reflect the effects of programmes being undertaken by regional organisations (COMESA, 2002:6). As an example, COMESA criticised the ranking of SADC and ECOWAS as the most successful regional organisations. According to COMESA, these rankings simply reflect the presence of a member with a large economy in each case (South Africa and Nigeria, respectively). One should therefore carefully distinguish between structural characteristics of countries and regional groupings, on the one hand, and integration policies, on the other hand.

7. Dimensions and categories of variables

Once the coverage and limits of a SIRI established, its variables should be organized systematically. As the multidimensional character of the phenomenon is obvious, the variables could be organised according to disciplinary fields (political, social, cultural, economic, etc.), and/or policy areas (trade, investment, migration, competition, agriculture, industry, infrastructure, legal cooperation, etc.). The latter could be called the traditional sectoral approach to integration.

A third way of classifying the variables consists of a classification on a functional basis, like in the input-output approach. Integration is then implicitly seen as a process where some variables act as inputs, some as outputs, while others characterise the process. The advantage of this approach is the emphasis on the output (effects) of integration; from a welfare and development point-of-view, that is what it is all about. The assessment of the developmental impact of regional integration processes and policies could be done by incorporating regional development and (social) spending indicators in the SIRI.[18]

However, one should be cautious in classifying variables along these lines. Double causalities and systemic relationships are more often the rule than the exception. Whereas, the World Bank (2002) stresses the importance to incorporate in a SIRI indicators that assess the long term economic impact of regional integration or cooperation, such as indicators about cross-border movements of people, capital, information, and goods and services, the European Commission (2002b) favours indicators on inputs and efforts.

This brings us to the fact that there exist a number of proposals on how to classify the variables. These include the proposals respectively made by DG Development of the European Commission, UNECA and ECB.

DG Development made the proposal to classify the indicators of the foreseen indicator system for monitoring economic integration in the ACP countries in the following broad categories: (i) regional economic cooperation, (ii) functional regional cooperation, (iii) governance, financial issues and functioning of institutions, (iv)

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[18] See, for example, The World Bank (2001), Silva Lopes (2003).

implementation of EDF projects and programmes. A more detailed description of this proposal is shown in table 3.

Table 3: DG Development's proposal for a system of indicators to measure regional integration and cooperation performance

Categories	Subcategories	Variables
Economic integration	Trade liberalisation policy	WTO compatibility of rules of customs valuation Quality of classification of goods Application of rules of origin Exemptions Phasing out of temporary measures Liberalisation of trade in services Importance of intra-regional trade
	Other integration policies	Facilitation of investment Movement of persons Right of establishment Competition policy Creation and implementation of cohesion policy Improvement of comparable statistics Macroeconomic surveillance Trade facilitation measures
Functional regional cooperation	Transport	Progress towards a common transport policy Expenditure for maintenance of regional network Application of harmonised transit regulations
	Maritime resources	Human and physical input for a common surveillance Human and physical input for a common evaluation of natural resources Enforcing of common quality and sanitary standards
	…	
Governance, financial issues and functioning of institutions	Institutions	Number of meetings Qualitative assessment of meetings Performance of specific institutions
	Budgets	Fulfilment of requirements of budgetary contributions Transparency of procedures Implementation of budgets
	HR	Recruitment policy Staff training
Implementation of EDF projects and programmes	Progress on appraisal	
	Decisions	
	Disbursements	Contracts concluded Contracts implemented

Source: European Commission (2002a)

UNECA (2001, 2002) considers eight "clusters of activity" to classify the variables and indicators. These are: (i) trade and market integration, (ii) monetary, fiscal and financial integration, (iii) transport, (iv) communications, (v) industry, (vi) energy, (vii) food and agriculture, and (viii) human development and labour markets.

ECB distinguishes between institutional and economic integration (Dorrucci, 2002). The former is evaluated on the basis of the implementation of decisions in four dimensions, based on Balassa's stages approach to integration: (i) free trade area/customs union, (ii) common market, (iii) economic union, (iv) total economic integration.[19] Within the latter category, seven subcategories (and 11 variables) are considered: (i) synchronisation of the business cycle, (ii) convergence of inflation rates, (iii) exchange rate variability, (iv) trade openness and integration, (v) financial market integration, (vi) convergence of interest rates, (vii) income convergence.

As a response to DG Development's proposal, the COMESA Secretariat launched a proposal for a system of indicators with an alternative design (table 4). The philosophy of that proposal is different in the sense that inter-regional comparisons are not the main focus, but rather the monitoring of their own integration process. COMESA considers 12 categories of variables: (i) trade liberalisation, (ii) trade facilitation, (iii) trade in services, (iv) transit facilitation, (v) monetary convergence, (vi) domestic payments and settlement systems, (vii) fiscal environment, (viii) government intervention in the economy, (ix) capital flows and foreign investment, (x) governance issues, (xi) regulatory environment, (xii) licensing requirements.

Table 4: COMESA's proposal for the development of a set of regional integration indicators

Categories	Variables
Trade liberalisation	Number of non-zero tariffs Highest MFN tariff Highest regional tariff Weighted average MFN tariff
Trade facilitation	Level of conformity to the WTO TBT Agreement Capacity of member states to implement mutually recognised certification marking schemes Notification of National Enquiry Points Ability to regulate and monitor sanitary and phytosanitary standards Use of ASYCUDA (or similar) Use of GATT valuation system Use of COMESA customs document Use of HS1996 (or later) customs classification system
Trade in services	Establishment and publication of Contact and Enquiry Point Performance with regard to commitments Reductions in exemptions over time
Transit facilitation	Implementation of COMESA harmonised road transit charges Use of the COMESA carriers license Use of the COMESA customs bond guarantee

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[19] It is correct to consider the four categories as dimensions rather than as stages within a single process, because the regional integration agreements are evaluated by the ECB independently in terms of their progress in each category, thus taking into account that integration in the real world does not always respect Balassa's model and that parallel processes and inverted sequences are not exceptional.

	Implementation of harmonised axle load and vehicle dimensions regulations Implementation of the COMESA third party vehicle licensing system
Monetary convergence	Inflation Size of the budget deficit Size of the external debt Exchange rate movements
Domestic payments and settlement systems, banking and exchange rates	Restrictions on the current account Restrictions on the capital account Level of government ownership of banks Restrictions on foreign banks to open branches and subsidiaries Government influence over the allocation of credit Restrictions on private sector companies to offer all types of financial services, securities and insurance policies Use of domestic electronic clearing systems Restrictions on foreign financial institutions
Fiscal environment	Weighted average income tax rate Income tax as % of GDP Weighted average of direct taxes on business Direct business taxes as % of GDP VAT rate VAT as % of GDP Government expenditure as % of GDP
Government Intervention in the Economy	Government consumption as % of the economy Government ownership of businesses and industries Share of government revenues from state-owned enterprises and from government owned property Economic output produced by government
Capital Flows and Foreign Investment	Existence of foreign investment code providing national treatment Degree to which there are any restrictions on foreign ownership of businesses Level of restrictions on foreign ownership of land Level of restrictions on repatriation of earnings
Governance Issues	Freedom of the judicial system from government influence Level to which contracts are respected and whether there is an independent arbitration of contract disputes Level of transparency and accountability of the judiciary Legally granted and protected private property rights
Regulatory Environment	Existence of an independent competition authority tasked with implementing a set of legally recognised rules and regulations on competition Existence of an independent telecommunications authority tasked with implementing a set of legally recognised rules and regulations on telecommunications Existence of an independent standards authority tasked with implementing a set of legally recognised rules and regulations on standards Existence of defined regulations dealing with public procurement in member states
Licensing Requirements	Level of licensing requirements to operate a business Time taken to obtain appropriate licenses to start business operations Transparency of the licensing system

Source: COMESA (2002)

Related to the question on how to organise the variables in a SIRI, is the question on whether and how to integrate the pre-conditions for regional integration, or "forward-looking" variables, in the system. In the literature, several attempts can be found to

measure the potentiality (feasibility and effects) of future integration agreements. In the economists' jargon they are referred to as *ex ante* studies. Of special interest for us are those attempts that permit comparison and those that are also relevant for monitoring purposes. The conception of integration as a phased process, as suggested above, allows of course to consider many "befores and afters" *within* the same process, so that ex ante studies and methods are not necessarily without relevance for our purpose (figure 3).

Figure 3: Pre-conditions in phased integration processes
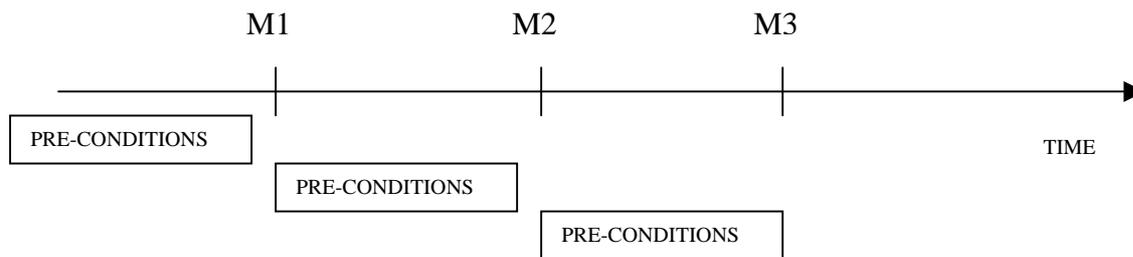
Mi: critical moments in integration process

The ex ante/ex post approach can be linked easily to the input-output typology of variables, mentioned before. As "inputs" can be considered: structural characteristics of the integrating area (number of countries, shared borders, etc…), asymmetries, capacities to integrate, commitments, governance structure, overlapping memberships, etc. As "outputs" could be considered: policy implementation, effects on flows, effects on growth, etc. A special category of inputs could be called pre-conditions for integration. Although originally intended to assess (ex ante) the possibilities and potential of (future) integration agreements, the variables involved can also be used in a dynamic manner to evaluate the compatibility of the formal integration process with the pre-conditions. In addition, these pre-conditions are not static, they are often endogenous because of feed-back effects of the integration process.

Well-known are the ex ante trade analyses that estimate the foreseeable effect of new regional trade agreements on trade flows and welfare. These include the estimates of trade creation and trade diversion[20], the identification of "natural markets" (Krugman, 1991; Kreinin and Plummer, 1994), the tests of regionalisation of international trade and the capacity to trade of individual countries (Freudenberg, Gaulier, Ünal-Kesenci, 1998a, 1998b), among others.

However, ex ante studies have not been limited to trade issues. Best (1997), for example, analysed the public-management capacities for regional integration.

Best's starting-point is the difficulty (for his purpose) that integration is not a homogeneous phenomenon, that its contents and orientations change over time, and

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[20] For a good overview of methods and results since Verdoorn's pioneering studies (Verdoorn and Meyer zu Schlochtern, 1964), see El-Agraa (1999).

that its (theoretical) finality is not pre-established since it is impossible to identify the "optimal" policy levels. In order to be practical, Best considers "levels of integrative ambition"; he implicitly refers hereby to formally expressed models of integration that are aimed at by a group of countries (Best, 1997:54-55). He proposes to use Pelkmans' detailed taxonomy to classify the levels of integrative ambition (Pelkmans, 1993), although he is aware that actual integration processes are not always exact copies of the (text book) models and that the suggested sequence of these models is not always respected.

In Pelkman's taxonomy, we find the traditional Balassa-type (text book) stages of economic integration, but each level is broken down in more specific arrangements. Preferentialism is differentiated into partial sectoral preferentialism, sectoral integration, non-reciprocal preferential systems, and reciprocal partial preferentialism; free trade areas are differentiated according to whether they cover all industry or all sectors; customs unions are broken down into various stages of product market integration; and also common markets and economic and monetary unions are broken down in stages.

Best stresses that a combination is needed of the identification of governing needs, on the one hand, and the identification of governing capacities, on the other (Best, 1997:56-59). He proposes as a first step "to evaluate the degree of difficulty posed for a particular group of countries, and for each participating administration, to deal effectively with a particular set of integration objectives at a given time" (Best, 1997:60). The author identified nine key variables that shape the complexity of the implementation of the integration objectives (table 5).[21] The variables are: (i)number of member states, (ii) relative sizes of the participating countries, (iii) different levels of development, (iv) scope of coverage, (v) type of impact, (vi) time perspectives, (vii) degree of real interdependence, (viii) political framework, (ix) perceptions, values and norms.

Best does not present, however, a method or a scheme that links the complexity variables to a specific institutional arrangement or specific institutional changes. Rather, he considers the variables as input in a complex negotiation process. The outcome of this process are institutional readjustments. He stresses that almost every integration agreement has implications for public management, but that there is no linear relationship between integration and the centralisation of public administration. The discussion on the subsidiarity principle illustrates this. Horizontal cooperation and partnerships are often important components of the integration architecture.

Table 5: Best's key variables of complexity in regional integration arrangements

Key variables	Possible breakdown
Number of member states	
Relative sizes of the participating countries	
Different levels of development	
Scope of coverage	Number of sectors covered Number of sensitive sectors excluded

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[21] Various of these "key variables" are in reality a set of variables themselves.

	Length of exclusion lists
Type of impact	Strength of impact: impact on macro-economic variables, impact on flows, population affected, etc. Type of impact: distribution of costs and benefits, degree of uncertainty of impact, time-lags, etc.
Time perspectives	
Degree of real interdependence	Degree of complementarity Intra-group trade Degree of transnational interaction Degree of transgovernmental interaction Importance of political ties Importance of military alliances
Political framework	Existence of common threat Awareness of individual international impotence Existence of historical perceptions of the relationships between the participating countries
Perceptions, values and norms	(Dis)similarity of perceptions of the nature, objectives and importance of the integration process Differences in constitutional systems Differences in political systems Attitude towards institutionalisation Perception of a common (regional) identity (Dis)similarities in national value systems (Dis)similarities in social structures

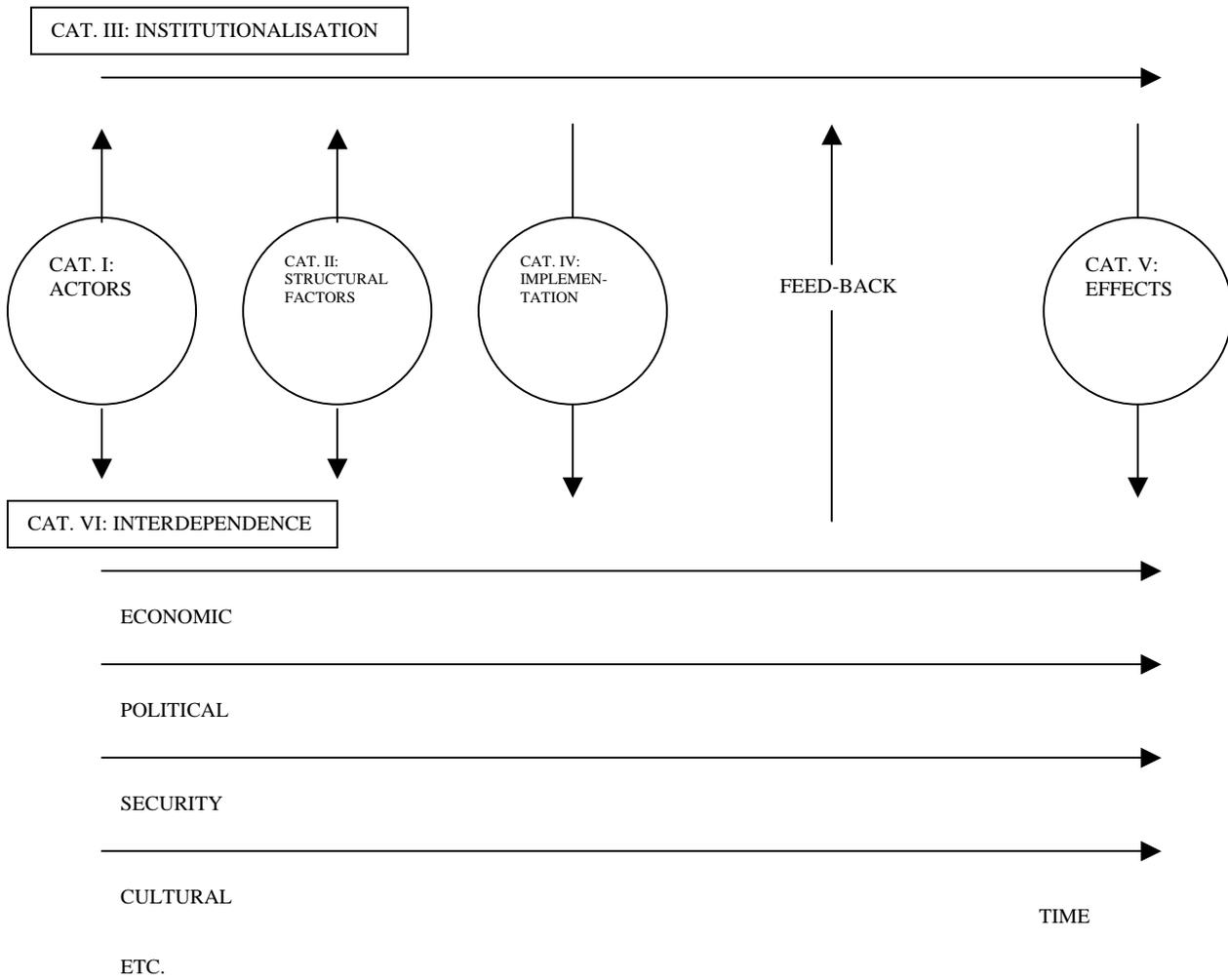Source: Best (1997:60-66).

8. Dimensions and categories of variables: a proposal

Taking stock of the many issues and problems presented in the previous sections, a proposal for a conceptual framework that could serve as a basis for the construction of a SIRI will now be presented. Or at least, it can be thought of as a check-list for selecting the variables that should be incorporated in the system. The framework explicitly recognises the multi-dimensional and dynamic character of regional integration and distinguishes between six categories of variables, which can easily be converted into six modules of a SIRI. The logical relationships between the categories of variables are shown in figure 4 and explained briefly below.

We consider the distinction between real and formal integration as not really appropriate; we prefer to consider parallel (but interconnected) processes of regional integration: institutional (more or less capturing what is usually called "formal"), political economic, cultural, etc. The effects of integration policies and the evolution of regional interdependence will obviously have feed-back effects for the institutionalisation process, thus conceptually restoring its endogenous character.

We think that this is a workable way to classify the relevant variables into broad categories. Particular SIRIs will have to opt for some combination of variables of these categories. In table 6, a proposition is made as for which variables and/or sub-categories correspond to the different categories.

Figure 3: Regional integration as a process: proposal for a conceptual framework

CAT. III: INSTITUTIONALISATION

CAT. I: ACTORS

CAT. II: STRUCTURAL FACTORS

CAT. IV: IMPLEMEN-TATION

FEED-BACK

CAT. V: EFFECTS

CAT. VI: INTERDEPENDENCE

ECONOMIC

POLITICAL

SECURITY

CULTURAL

ETC.

TIME

Table 6: Proposal for classifying variables in a SIRI

Category	Sub-categories
I. Actors	Number of integration units involved (countries, regions, organisations, …) Number and quality of actors in the decision-making process Level of activity of the actors Actors' opinions and perceptions (survey results) Overlapping memberships
II. Structural factors	Proximity of the actors (geographical, cultural, etc.) Structural complementarities Structural asymmetries Historical patterns of cooperation, integration and conflict
III. Institutionalisation	Number of treaties and agreements Contents of treaties and agreements Time frames of treaties and agreements Institution building Arrangements on common policies and policy coordination Gradualism, exemptions and differential treatments
IV. Implementation	Status of implementation of general treaties Status of implementation of specific agreements Degree of accomplishment of convergence criteria
V. Effects	Human development Economic growth Trade Migration Capital flows
VI. Interdependence	Mobility of persons Political interdependence (existence of common policy variables, *de facto* coordination of policies, occurrence of conflicts, tensions, …) Economic interdependence (trade, capital flows, correlation of activity levels, symmetry of shocks, …) Information and knowledge flows

Actors and structural factors

The categories of "Actors" (cat. I) and their structural characteristics ("Structural Factors") (cat. II), contain information about the basic building blocks of the integration effort.

The category of "Actors" refers to the number and type of actors involved and their behaviour.[22] The number of countries or regions involved has a direct influence on the dynamics of the decision-making process, although that relationship is not straightforward and should be seen in combination with the issue of asymmetries (see above). From an administrative and political point-of-view, the number and character of the policy-making and implementing levels is also important.

The new forms of integration, sometimes called "new regionalism"[23], have stressed the importance of considering the participation of different types of actors involved in the (real) integration processes. When the non-governmental actors are formally organised and linked to the formal integration process, then it is rather easy to identify and evaluate their participation, and incorporate this information in an indicators system. If it is not the case, then it will be more difficult to do so. Examples of formalised participation of non-governmental actors range from the Economic and Social Committee in the EU to the Private Sector Forum in the ZMM-GT (Slocum et al., 2003).

It might be relevant to distinguish between primary (active?) and secondary (passive?) actors. The primary actors being persons, groups of persons and organisations that have an influence on the dynamics of the integration process; the secondary actors being all those that are affected by the process. Such secondary actors do not necessarily belong to the integrating region. The supranational actors might be seen as a third category, although they can be both a primary stakeholder or a secondary actor.

In addition to their numbers, within each category of actors a list of attributes could be established to reflect their character and importance. The intensity of their involvement and their importance in the decision-making process could be evaluated through quantitative methods (number of meetings attended, financial contribution, etc.) or qualitative assessments (expert opinion).

The category of "Structural Characteristics" (cat. II), includes all those variables that refer to structural characteristics of the integration grouping and of its members. They should logically be restricted to variables that are directly or indirectly related to the integration process. These variables might relate to the scale of the arrangement, the structure of the grouping and of each component, the nature of the components, etc.

Proximity of the actors is obviously a relevant variable to evaluate the potential and sustainability of an integration grouping. Gravity type models of economic interaction have shown significant (negative) relationships between the intensity of economic relations between countries and their distance.[24] It has been shown also that

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[22] For an overview of actors involved in integration projects in the real world, see e.g. the mapping exercises of the WTO (2000) and UNU/CRIS [www.cris.unu.edu].

[23] See, Hettne (1999).

[24] The classical references on gravity models for trade analysis are Tinbergen (1962), Pöyhönen (1963) and Linneman (1966). For an overview of the theoretical discussion on the validity of the gravity equation (and an application to trade flows in the Baltic Sea area), see Paas (2002). Paas identifies three classes of theoretical foundations in the literature: (i) regional science and new economic geography, (ii) microeconomic foundations, (iii) trade theories.

proximity/distance is a typical multi-dimensional variable; physical, economic, political, cultural, linguistic, and historical proximity are all relevant variables.

As we mentioned before, structural asymmetries play an important role in integration processes although the direction of causalities is not clear. Its measurement can be based on variables of population, the economy, external relations, and so on.

Indicators of institutionalisation and policy implementation

The actors involved in integration processes take steps (measures) that are supposed to contribute towards regional integration and the "Institutionalisation" of the region and its integration effort (cat. III). These political decisions are implemented to some extent ("Implementation", cat. IV) and have or have not certain impact ("Effects", cat. V) in different areas (social, economic, cultural, etc.). Also relevant is the institutional basis on which the whole integration process rests (for example, constitution-based versus treaty-based integration processes); institutionalisation should thus be analysed on different levels.

Obviously, institutional activity has quantitative (for example, number of treaties or ministerial meetings) and qualitative aspects (content of the treaties or decisions). Productivity measures might be applied to the institutional activity, thus linking policy outputs to their resource cost.

The World Bank (2002) pointed to the problem that there might be discrepancies between (formal) objectives and the institutional set-up to achieve them. As a consequence, indicators that reflect institution building do not necessarily show progress towards reaching the integration goals. Although relevant, inconsistencies between expressions of formal integration might be difficult to assess.

In our opinion, it is further useful to distinguish between policy implementation (at the regional or national level) and the assessment of the impact of implemented policies.

Effects

Seen from the perspective of citizens and policy makers, this should be the most important category of variables. But from the point of view of a designer of a SIRI, it is also the most problematic category to include in the system. This is related to the fact that it is difficult to isolate effects of integration from those of other phenomena. Integration is a complex and dynamic process not necessarily adequate for causal explanation. On top of that, for many aspects of integration, there are no comparable data sets nor standardised research methodologies available.[25]

This is certainly true for the analysis of static effects of integration (directly linked to the reallocation of resources among sectors and countries), but even more so for the analysis of the dynamic effects of integration. Although researchers often concentrate on the short term (static) effects of integration measures rather than on the dynamic

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[25] Hinojosa et al. (1996), for example, provide an overview of the debate on the (national and regional) labour market impacts of NAFTA for the United States and show the sensitivity of the results towards the type and quality of the data, and the methodology used.

ones, it should be stressed that the sign (direction) of the effects does not necessarily coincide, so that the former cannot necessarily be used as a proxy for the latter. In practise, it is often explicitly understood and accepted that short term costs (transition costs) are the price to pay for reaping long term benefits.

Other aspects of monitoring the impact of regional integration policies can be mentioned:

First, as Devlin and Ffrench-Davis (1998) pointed out, the methodological problems related to counterfactual analysis are particularly important: (i) the more complex the studied process is, (ii) the longer the time period considered, (iii) the bigger the changes involved, and (iv) the more the analysis turns on exact magnitudes. Most of these items apply in the case of integration studies.

Secondly, the right balance has to be struck between quantitative indicators and qualitative assessments.[26]

Thirdly, a distinction should be made between the strength and the type of impacts (Best, 1997).

Fourthly, the existence of overlapping integration agreements (see above), often with convergent objectives, makes the identification of effects even more difficult. Devlin and Ffrench-Davis (1998) add that this phenomenon might also have a cost of its own in terms of reduced transparency and higher transaction costs.

Fifthly, the comparison of effects between countries does not allow for analysing the distribution of effects within member countries. Integration might well favour the agglomeration of activities within the countries, might preferentially favour border areas, might have an impact on the income distribution, etc.

Finally, in developing countries, integration policies are often an integral part of more general structural adjustment and liberalisation policies, so that their specific effects cannot easily be established.

Indicators of interdependence

"Effects" of integration, together with structural conditions and exogenous influences, can explain the degree and evolution of "Interdependence" between the regional actors (cat. VI). Effects are thus attributable to specific integration policies, whereas the degree of interdependence is autonomously measured and reflects the evolution of

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[26] For illustrative purposes, we might mention some examples of combined indicator systems that have been presented as monitoring tools for integration processes. The Transport and Environment Reporting Mechanism (TERM) model of the European Environment Agency, for example, is a relevant and interesting model for monitoring a specific policy area on a regional level. The TERM is a flexible instrument containing quantitative as well as qualitative data on progress made in these policy fields. The indicators-based model shows the quality of policies, the degree of their implementation and the need for more policy coordination in specific areas (EEA, 2001). Another recent example is Sustainable Calgary's system of indicators of sustainability and the quality of life (Keough, 2002). Although conceived as a tool for the local community, it is thought to be a system that can be transformed to monitor the effects of international trade agreements.

interdependence on different dimensions. Interdependence is used here as a substitute for what is often called "real" or "de facto" integration.

Interdependence tries to capture the degree of "regionness" of the region, or at least some aspects of it. Regionness is also a central concept in the new regionalism approach (Hettne, 1999; Hettne and Söderbaum, 2000).

Interdependence can be assessed on different dimensions, such as economical, political, cultural, security and infrastructural. These dimensions coincide broadly with those considered in the proposal for a system of indicators of interconnectedness, made by Held and others in the framework of the Global Transformations project (Held et al., 1999).[27] The following dimensions are being considered in that project: (i) political-legal indicators, (ii) military indicators, (iii) economic indicators, (iv) migration indicators, (v) culture indicators, (vi) environment indicators, (vii) global stratification. Many of the indicators proposed could be transformed into indicators of regional interconnectedness.

The measurement of the degree of interdependence can be approximated via the measurement of the flows (of people, goods, capital, information, etc.) that are interconnecting the actors or via direct measurements of correlations of variables (for example, symmetries in business cycles, interest rate spreads, etc.). For the forms of interdependence that are more difficult to measure, like political interdependence, indirect measurements should be considered. The patterns of voting behaviour in multilateral organisations might, for example, be a possible indicator of regional policy convergence/divergence.

Interdependence through trade flows is probably the most studied kind of interdependence. Its study is usually based on simple indicators as the relative importance of intra-regional trade and its growth, which can easily be calculated. More sophisticated indicators are available, which correct the former for size effects in order to allow for methodologically sound inter-regional comparisons (Iapadre, 2000, 2001). The indicators of the degree of integration can be complemented with indicators of the direction and nature of commercial integration. This is particularly relevant from an analytical point of view. The composition of the flows induced by the integration process are good indicators of the underlying socio-economic changes that take place in the member countries. In the case of trade flows, for example, indicators of intra-industry trade and of the technological content of intra-regional trade[28] can easily be calculated. A proposal for a combined set of indicators on (trade) regionalisation has been made by Bensidoun and Chevallier (1998) (table 7).

Table 7: Bensidoun and Chevallier's indicators of regionalisation

	Indicators
1	Relative trade intensity index
2	North's share in South trade (or: South's share in North trade)
3	Degree of currency anchor (relative volatility of the exchange rate)
4	Intra-industry index (Aquino coefficient)

[27] See, http://www.polity.co.uk/global/

[28] See, for example, Buitelaar (1993), and Devlin and Ffrench-Davis (1998).

5	Similarity of South-North trade with South-Rest of the World trade

Source: Bensidoun and Chevallier (1998).

The fact that studies on regional trade flows are relatively abundant can be explained by trade data being relatively well available, and of sufficient detail and good quality. This is much less the case for data on capital flows, migration and flows of information. In the case of intra-regional migratory flows and stocks of immigrants, for example, although it is essential information, in many countries the quality of the data is insufficient or the data are lacking.[29]

The ex post analysis of the flows of (public) funds between national governments and the supranational institutions within a group of countries (a region) also permits an evaluation of the degree of their integration, provided that these flows reflect the actual level of organised solidarity, the importance of the supranational institutions, etc. The category of variables related to the budget in DG Development's framework, for example, could easily be broadened to include indicators on the composition of revenues and expenditures and on vertical (im)balances between the national and supra-national levels.[30] I am convinced that the conceptual framework and indicator systems developed to monitor decentralisation processes from a fiscal perspective might be very helpful to structure a fiscal module of a SIRI. Table 8 shows the list of indicators incorporated in the system of fiscal decentralisation indicators of the World Bank (sd). Three categories are considered: (i) main indicators, (ii) composition of sub-national revenues and grants, (iii) composition of sub-national expenditures. Vertical imbalances could be calculated also on a sectoral basis.

Table 8: The World Bank's list of Fiscal Decentralisation Indicators

Categories	Indicators
Main indicators	Sub-national expenditures (% of total expenditures)
	Sub-national revenues (% of total revenues)
	Vertical imbalance (%)
	Sub-national expenditures (% of GDP)
	Sub-national revenues (% of GDP)
Composition of	Tax revenue (% of total sub-national revenues and grants)

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[29] In addition, from a social policy perspective, it is necessary to distinguish between the magnitude of the flows of migration and the degree to which the immigrants are actually "integrated" in the host societies. Figures on temporary migration and return migration could give some indication about the structural character of migration but the "integration" issue of immigrants is much more complex and its monitoring would require specific indicators. According to the typology proposed by Werth, Delfs and Stevens (1997), three different types of indicators could be considered: (i) indicators of accessibility, dealing with the legal framework in which migrants live, (ii) indicators of the living situation of migrants, referring to employment, education, welfare, housing, etc., and (iii) indicators on attitudes, expectations and political participation of migrant and host population, using opinion surveys. The typology is based on the work presented in the framework of the project "The Integration of Immigrants: Towards Equal Opportunities" of the European Committee on Migration (CDMG) of the Council of Europe. The complete series of papers, showing the different national perspectives, has been published as Council of Europe (1997).
[30] "Vertical imbalances" refer to the degree to which national governments rely on revenues from supranational institutions to support their expenditures.

sub-national revenues and grants	Transfers from other levels of government (% of total sub-national revenues and grants)
Composition of sub-national expenditures	General public services (% of total sub-national expenditures) Defense (% of total sub-national expenditures) Public order and safety (% of total sub-national expenditures) Education (% of total sub-national expenditures) Health (% of total sub-national expenditures) Social security and welfare (% of total sub-national expenditures) Housing and community amenities (% of total sub-national expenditures) Recreational, cultural and religious affairs and services (% of total sub-national expenditures) Fuel and energy (% of total sub-national expenditures) Agriculture, forestry, fishing, and hunting (% of total sub-national expenditures) Mining and mineral resources, manufacturing, and construction (% of total sub-national expenditures) Transportation and communication (% of total sub-national expenditures) Other economic affairs and services (% of total sub-national expenditures) Other expenditures (% of total sub-national expenditures)

Source: World Bank (sd)

9. Conclusions

Adequate monitoring tools for regional integration processes would allow better (regional) policy design and implementation, better scrutiny and participation by all stakeholders and affected groups and individuals, as well as more in depth academic analysis of these complex social transformation processes.

The aim of this chapter was to explore the conceptual and methodological aspects related to building a system of indicators of regional integration (SIRI). We have tried to demonstrate that there are multiple and interconnected issues to be considered, and that choices need to be made, related to:

- the kind of users and producers involved in its design;
- the underlying concepts and theories;
- the scope of the system and level(s) of analysis;
- the adequate selection and organisation of the variables;
- the balance between quantitative indicators and qualitative assessments;
- the "correct" observation and construction of indicators.

Future attempts to implement monitoring tools for regional integration processes, launched at the regional, interregional or supranational levels, will require due consideration of these issues raised and answers to the questions posed. The attempts will only have a chance to succeed if conceptual, technical, political, institutional and organisational aspects are simultaneously addressed.

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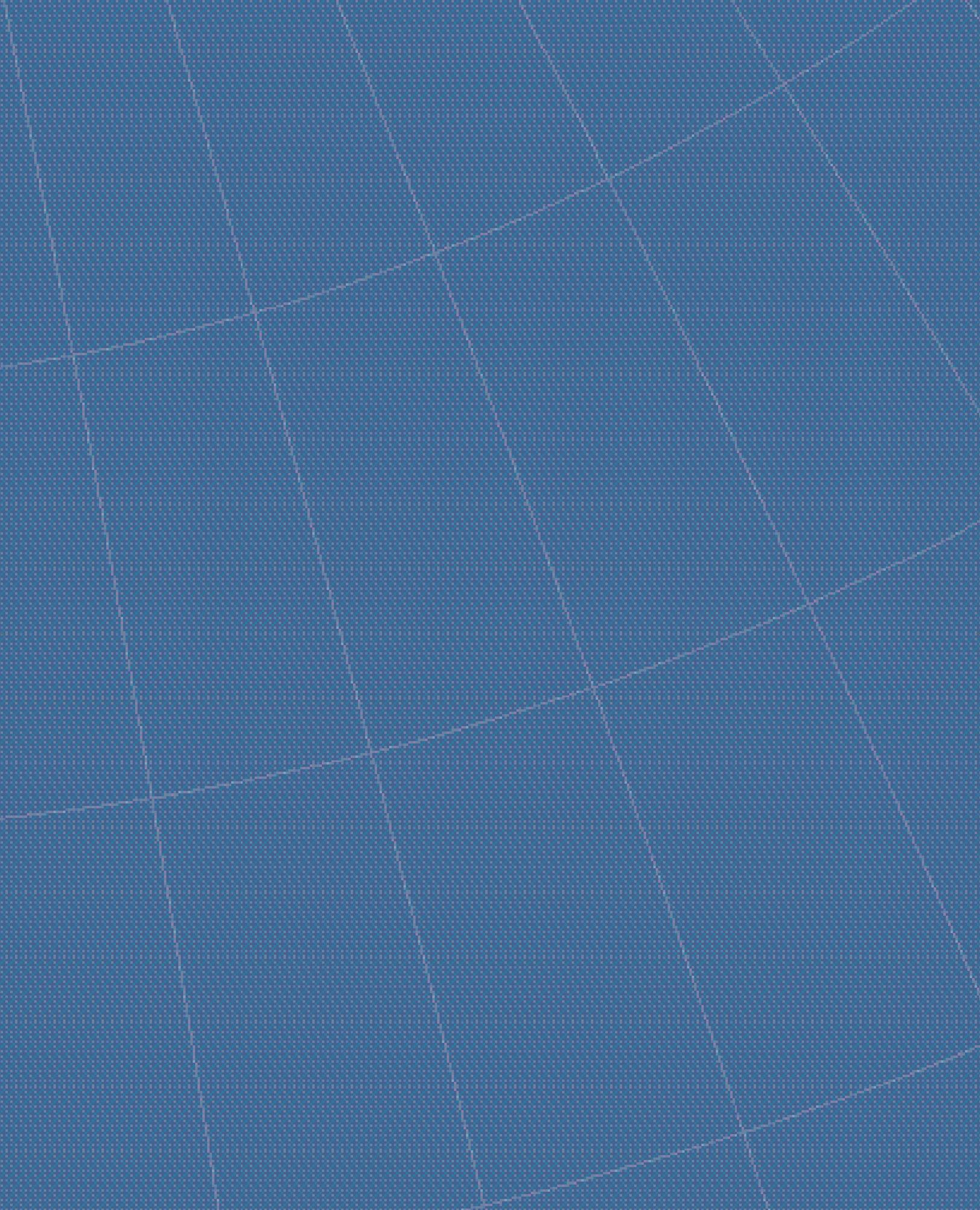
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