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INTEGRATING LIFE-COURSE PERSPECTIVES INTO POLICY ANALYSIS

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Contact: Peter Whiteford, E-mail: peter.whitford@oecd.org and
Anna d'Addio, Email: anna.daddio@oecd.org

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THE OLIVIA FRAMEWORK: CONCEPTS THAT SUPPORT INTEGRATED, FINELY-GRAINED POLICY ANALYSIS

INTEGRATING LIFE-COURSE PERSPECTIVES INTO POLICY ANALYSIS

Human Resources and Social Development Canada

Peter Hicks, May 2007

This version of the evolving Olivia framework has been prepared as background to an OECD seminar on life risks, life course and social policy, in Paris on May 31 and June 1, 2007.

The Olivia framework had its origin in life-course analysis. However, it has evolved greatly and, in its current version, provides a comprehensive framework that allows us to analyze social trends and policy responses from many perspectives, including life-course perspectives. It uses consistent concepts and associated measures to examine the characteristics of individuals and institutions (government programs are counted as institutions in the framework) from:

- The point-in-time, resource-flow perspectives that underlie most traditional policy analysis.
- Life-course perspectives, including both transitions/trajectories analysis and asset-based analysis.
- Spatial perspectives that anchor people in space and history and that provide a link to macro-analysis.
- The perspective of the purposes of individuals and institutions, including the objectives of different types of government programming.

The concepts of the framework support integrated analysis in all these areas at a much finer level of description than is customary. In other words, the framework allows us to situate life-course policy analysis in a broader context. It enlarges the boundaries of traditional analysis to encompass these newer forms of understanding. It provides tools for assessing proposed life-course policy solutions against more traditional point-in-time policy solutions.
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1. INTRODUCTION

1a) The framework in summary

1. The Olivia framework is a communications tool to support analysts who deal with the many dimensions of human resources and social development policies. It sets out comprehensive, measurable concepts that describe those characteristics of individuals and organisations that are of greatest interest to these analysts. While the framework builds on many existing approaches, it has two important new features:

- It describes our society and our policies in a far more finely-grained way than do most traditional approaches, with the descriptions based on real people and real institutions, as opposed to the abstractions which are the basis of much traditional analysis.

- It provides a more integrated approach to describing social and labour market conditions and policies – allowing us to bridge the many divides that now fragment social and human development policies.

2. These features will, over time, allow us to bring greater quantitative evidence to bear on a wider range of policy decisions. It will simultaneously allow us to better integrate qualitative data from citizen engagement and case studies into the policy process. It will be easier to integrate the perspectives of a variety of stakeholders and a variety of analytic traditions. The eventual result will be significantly improved policy effectiveness and accountability.

Who is Olivia?

3. We should first explain why it is called the ‘Olivia’ framework. Especially in early versions of the framework, we made extensive use of a case study of a hypothetical individual, Olivia. We examined how she spent her time. We showed how she interacted with her family, her employer, her school, and her participation in government programs and taxes. We showed how she changed and developed over the course of her life. We described where she lived – and the social, economic and environmental settings in which her life took place. We described her values and expectations and how these were realized. We did this in order to:

- Provide a concrete example of how the concepts of the framework operated – of the granularity of the description they provide of her life and relationships.

- Emphasize that the framework applies to qualitative analysis (case studies, best practices, biography and narrative) as well as to more traditional quantitative analysis.

- Emphasize that the framework’s concepts and associated measures are based, not on abstractions and averages, but on detailed micro-data about specific individuals and institutions.

- Emphasize (by virtue of Olivia being a hypothetical, made-up person) that the framework and its associated measures do not infringe on privacy in any way, even though they are individually-based. Today’s modelling technologies allow us to do our analysis based on a world comprised of
synthetic individuals and institutions that are created in a way that mirrors the characteristics of actual Canadians and actual institutions.

**The four modules of the framework**

4. The framework consists of four modules – each describing individuals and organizations from a different perspective, but using consistent, measurable concepts throughout.

5. Module One is about resource flows. It sets out consistent concepts for describing the interactions or transactions that take place among individuals and institutions. (In our language, an institution is defined very broadly to include government programs and informal social networks, as well as formal organisations such as firms and non-governmental bodies.) These concepts encompass the monetary flows that are the basis of our economy, as well as non-monetary flows of goods, services, information and time. Emphasis is placed on the basic flow of all: time and how it is allocated by individuals. As well, Module One provides standard ways of describing the characteristics of both individuals and institutions. It is our starting point.

6. Module Two provides a consistent way of describing how people and social institutions change and develop over time. The module contains two quite different, but complementary approaches:
   - Life-course analysis based on transitions in the domains of life. Transitions are major changes or discontinuities in the resource flows of Module One. This analysis allows us to describe the main compartments and changes of life.
   - Stock and flow analysis that looks at, for example, financial capital, housing, human and social capital – and how these result from the point-in-time flows in Module One. We build up assets from flows at one stage of life, and convert them back into other flows at subsequent stages of life. This analysis allows us to describe the continuities that cross the various transitions and stages in the lives of people and institutions.

7. Module Three provides a set of concepts for describing the physical locations where individuals and social institutions are situated – neighbourhoods, cities, labour markets, provinces, the country as a whole, and international groupings such as the G7 or OECD countries. This allows us to anchor people in real space and in real history. It allows us to examine community assets, natural resources and sustainable development. And it allows us to use the micro-analysis of Modules One and Two in conjunction with macro-level analysis – whether of the effects of business cycles, wars or climate change.

8. Module Four provides a comprehensive way of describing purposes. For institutions, we use the familiar input-process-output-outcome model. Outputs are the immediate products of the institution, while outcomes reflect the underlying purposes. Inputs and outputs are the resource flows from Module One. For individuals, the purpose is well-being. We approach this through concepts related to values, satisfactions and expectations – with these concepts rooted in the finely-grained descriptions of the first three modules. Finally, we show how the framework supports discussion of societal-level well-being and the development of social indicators.

**The concepts of the framework can be used in virtual all analytic applications**

9. We can use the concepts in the framework to describe the lives of specific individuals such as Olivia. The same concepts can be used to describe groups of people – for example, the resources received from government, family and market by marginally-employed people living in large cities. These same concepts can also be used to describe the time demands on sandwich-generation mothers who provide care to
both their children and to their parents. They can equally describe the needs and aspirations of older people who are house-rich or younger people who are homeless.

10. We can use the identical concepts to describe an institution, as in a case-study of the employment practices and productivity history of a particular firm – or of the care-giving and care-receiving experiences and challenges faced by a particular family. These same concepts can also described groups of institutions – labour shortages faced in certain industries, cognitive outcomes resulting from different categories of schooling, and the effectiveness of government programming in alleviating poverty and overcoming obstacles to labour mobility.

11. The framework allows us to use the same words, with the same meanings, in all these applications. More important, since the concepts are all measurable, the framework supports consistent, quantitative analysis in all these domains – something that is far from today’s reality – and may seem like a daydream to many readers.

12. Of course, the fact that the concepts are measurable does not meant that the needed measures actually exist. We will return to data collection strategies a little later, but the bottom line is that a great deal of highly-detailed data about the life-courses and transactions of individuals is potentially available now. Many potentially rich survey and administrative data sources now exist – waiting to be unlocked through the use of newly-available meta-analytic tools. The day dream could become reality faster than many expect.

A background technical report provides references and details

13. This document longer technical paper. We indicate the kind of will be found in this

14. The technical material that is more Human Resources and Canada. The current version was developed by this department as part of its mission to become a centre of excellence in labour market and social development policy.

1b) What is ‘finely-grained’ and ‘integrated’ analysis?

15. The strength of the framework rests in ability to describe things in a way that is both integrated and detailed. Readers may well be a little sceptical, having heard other promises of big breakthroughs before. We will therefore take a few minutes to explain what we mean, and to contrast the new concepts with those that are more traditionally used today.

The benefits of finely-grained understanding

16. Most existing tools of policy analysis tend to describe society and individuals in a fragmented manner. They tend to be built on highly simplified hypotheses about people’s behaviour (and about organizational behaviour). They describe fragments of the lives of ‘average’ people and ‘average’ institutions. This use of simplifying assumptions, based on limited data, was essential in a pre-computer age. We did not
have the technical capacity to manipulate data other than through highly simplified hypotheses about how things worked.

17. The concepts used in the Olivia framework, in contrast, start with premise that we want to describe almost everything that is potentially interesting (to policy analysts, at least) about real individuals and real institutions. There is inevitably some theory at play since we are still making choices about which characteristics are to observed and measured. However, those choices are more guided by common sense – and through the strategy of erring collecting more than by any other words, we are of current allows us to create about particular institutions, and is important analytic techniques simulation

18. (On a technical note, throughout this huge data bases amounts of individuals and an analogy that is older generation of present author who tabulations and However, such would be impractical in real life. What actually exists is a series of equations, along with source data, that can be used directly in making the appropriate analytic calculations in an efficient manner.)

19. This is all very abstract. We will try to make it more meaningful through the analogies set out in the following two figures:

- Figure 1 illustrates some of the weaknesses of traditional analysis when it comes to understanding the role of institutions, including public policies.

- Figure 2 provides an analogy where we associate traditional analysis with butchery – and the finely-grained Olivia analysis with micro-surgery. It is a clumsy, exaggerated comparison, but we want to make the big point before moving on to more nuanced discussions.

### Additional information in the technical paper

Examples of the micro-simulation tools already available in Canada:

- Statistics Canada’s LifePath microsimulation model simulates the life-courses of individual Canadians based on data from the census, surveys and administrative files. Based on synthetic individuals, it eliminates privacy concerns.

- Another rich Canadian source is the LAD longitudinal file that is fed by administrative data.

- Development work in creating similarly detailed files for geographic areas by adding variables derived from survey data to census spatial data.

Suggestions on the further development of these rich analytic data bases, including for micro-simulations of data on institutions.

An explanation of why the use of the framework, despite its apparent complexity, will result in better understanding of issues by both the public and experts. The concepts used make intuitive sense.
Figure 1. Finely-grained analysis -- why institutions (and policies) matter

Analysis using traditional analytic tools often show that institutions (including public programs) have had no, or very modest, effects on individual lives. For example:

• Evaluations of the subsequent effects of active labour market programs tend to show that they get mixed, modest results. In the absence of careful design they can make things worse.

• International comparisons by the OECD found that people had similar family disposable income before and after retirement, regardless of the form or generosity of public pensions.

• Educational studies drawn from different sources would seem to suggest that there are significant payoffs from longer periods of schooling but that outcomes later in life are hardly affected at all by what happens inside the education system (in terms of curricula, class size, teacher training, etc).

When we rejoin the real world, we know that conclusions such as these -- that what happens within institutions have little effects -- are clearly wrong. We, mercifully, would not order our everyday lives based on such findings. One problem is that the research and evaluations in question focus on average effects. They are not sufficiently granular in assessing the effects of institutions on people with different characteristics and needs.

• The interesting evaluation question, for example, should be 'which aspects of active labour market programming work best for which people in which circumstances?' and not the question that is, if fact, typically asked -- namely 'what effect did this particular active program have for its participants on average?' The more granular data would show that such programming made a big difference in the subsequent lives of some, and made things worse for a few. The more detailed information is needed to guide the evolution of evidence-driven programs.

• With respect to the returns-to-education question, what would be interesting would be the much more finely-grained analysis of returns to, for example, particular fields of post-secondary education -- taking into account the characteristics of the individual. Some fields of study, for example, may have high returns in terms of subsequent earnings, and other fields may be a waste of time -- at least judged in terms of subsequent success in the labour market.

• The OECD retirement income results are, without question, enlightening. However, the correct conclusion (as indicated by the OECD) is not that public pensions do not matter, but that the effects of public policies cannot be understood without taking account the interplay among the domains of public policy, markets and families. People want to maintain living standards after retirement and simply adapt their behaviour based on what is happening in all these domains.

Much existing research and evaluation is based on average effects, on treating institutions and programs as large black boxes, and on ignoring indirect effects in other domains of life. This means that these tools are weak in applications that are intended to allow policies to evolve based on evidence of which aspects of those programs are working and which are not. For that, we need to get behind the averages and to look at what is actually happening within the institutions and programs that we are examining, and how they relate to real people, not average people.
Evidence-driven, incremental policy-making, along the lines envisioned in the Olivia framework, is like micro-surgery carried out by a skilled medical team. A surgeon uses delicate instruments to make key, but relatively small alterations to one or two parts of a complex system. The team has the capacity to see how the whole network operates, to anticipate the effects of the intervention throughout whole system, to monitor whether these effects are indeed occurring, and to take remedial action if they are not.

In social policy terms, the micro-surgery policy team would be able to assess the effects of the surgery given the interconnected networks in which an individual lives: family, market and workplace, learning and community. These domains are all supported by a rich mix of public policies – rules, services, income supports, taxes and information. A policy change in one part of the system will affect all others, directly or indirectly.

Currently, our analytic instruments allow only a very crude understanding of these interactions. They are like a cleaver wielded by a butcher. The butcher can only see the immediate area in question and has no knowledge of the indirect effects of his surgery elsewhere in the system. Even within that small part of the system that is within his field of vision, he sees things through distorting ‘average characteristics’ lenses – rather than directly seeing the real objects before him. Small incremental incisions are out of the question.

The micro-surgery enabled by the Olivia framework, in contrast, supports a set of measures that allows a richer understanding. It provides concepts that allow us to consistently describe, and (increasingly) to measure:

- The full range of policy instruments at play: rules, income transfers to individuals, services, information and income transfers to other orders of government.
- The social institutions that comprise the domains and trajectories of life: family, work, learning and community.
- The interactions among individuals and those institutions and policies.
- How those interactions change over time at the level of individuals as a consequence of policy changes (or of other shocks or transitions).
- How these changes result in changing assets, including an individual’s human capital, social capital and financial capital (and other forms of capital, as we will also discover later).

The analogy is exaggerated, of course. In particular, some contemporary, sophisticated tools are routinely used today.

- For example, we have reasonably finely-grained models to examine changes to income transfers and taxes.

But even here, these models still seldom take account of the critical indirect effects on other income flows (e.g., those that take place within the family).

- The tools we use in evaluative work are typically more sophisticated than those we use in our policy formulation work.

But they are typically applied too late to drive policies. Contemporary ‘Olivia’ tools, on the other hand, allow evaluation, performance measurement and referral to services to take place simultaneously, in real time.

Moreover, even sophisticated versions of traditional analysis are typically limited to fine-tuning applications – once the fundamental policy choice has already been made. Traditional tools provide little help in making the basic choices such as in the selection of the policy instruments to be used (e.g., the choice among income transfers to individuals, the provision of services or information, regulation, or transfers to other orders of government).
The message from these two figures is that finely-grained analysis would be particularly useful in supporting the normal way in which we make policy – i.e., through smaller incremental changes.

- Mature public systems consist of many complex and closely intertwined policies and programs – including tax systems. These originate in many departments and in different orders of government. They are typically associated with complex, entrenched delivery systems such as the education or health care systems. Affected individuals and institutions react to the whole system, not to single policies or taxes taken in isolation.

- This interdependence makes is difficult to make large policy changes. A big change in one part of the system can have large, unanticipated and perverse spin-off effects in other parts of the system. It is hard to get consensus for proposals for large changes. There are typically many losers as well as winners. Indirect benefits are difficult to understand, except for those who will lose from those indirect effects.

- We therefore increasingly live in a ‘devil is in the detail’ policy world, where systems evolve most effectively and efficiently through a series of relative small, gradual changes – based on evidence (where it exists) of what is working and what is not, together with common sense and political judgment.

Existing analytic approaches are typically too crude to capture the small, and often, indirect effects of many incremental policy changes. Accordingly, common sense and political judgement play much the largest role – not a bad thing at all. Nevertheless, such judgements could be usefully re-enforced by the richer empirical and narrative insights that are associated with the framework.

**The benefits of integrated analysis**

Finely-grained analysis and integrated analysis are inseparable in practice. However, the fact of using common concepts across a wide range of policy applications has advantages in its own right. It enables efficient communications across areas that are currently marked by barriers in our way of understanding things. These include bridging:

- The divide between qualitative and quantitative analysis.
- The divides among the policy silos and the academic disciplines that support them.
- The divides across the stages of the policy process.
- The divides between an economic and a social understanding of policy issues.
- The generational divide between the users of traditional analytic tools and users of the contemporary tools.
23. **Bridging the divide between quantitative and qualitative analysis.** There is presently a large divide between quantitative (statistical) approaches to analysis and qualitative approaches (e.g., narrative accounts of people’s needs and expectations for policy, their opinions, case studies of what works best, etc). In many ways, qualitative analysis provides a richer description of those things that are truly important to policy than does the fragmented view of reality that is portrayed by most of our statistics.

24. Yet, qualitative methods have been under-used in human resources and social development policy-making, particularly in the area of citizen engagement and consultation. One reason has been the lack of good tools for capturing the results of those consultations in ways that can be easily linked to other kinds of information that arise from our (urgent and necessary) quantitative analysis of costs, winners and losers.

25. So we are faced with a typical dilemma of the urgent driving out the important. The framework outlined in this paper uses concepts that support both quantitative and qualitative measures. They enable a reconciliation of both approaches.

26. **Bridging the policy silos.** The framework addresses another set of big divides: those that exist among program silos, and among the academic disciplines that support policy. Even though social policies are sometimes housed together, as is currently the case in HRSDC, they often retain their own language and culture. They use words that are defined differently. They use measures that are not always compatible. There are differences in the kinds of analysis that are thought to be important. In many cases, the words used by policy insiders are not those used by ordinary citizens.

27. The Olivia framework uses one set of consistent, measurable concepts drawn from several disciplines. As an over-simplification, Module One on resource flows draws on economics, while Module Two on the life-course draws on a mixture of economics and accounting (stocks and flows) and sociology (transitions and trajectories). Module Three on time and space draws on a range of social sciences, including geography. Module Four on purposes draws on public administration research in its descriptions of institutional purposes – and on several social sciences in its descriptions of individual purposes.

28. Regardless of source discipline, the concepts used in the framework are internally consistent and correspond with a common sense way of seeing the world.

29. **Bridging the stages of the policy process.** The framework will help strengthen effective communication across the stages of the policy process:
• Public consultation and engagement, which tends to use qualitative concepts that are unconnected with the quantitative analysis that is used in subsequent policy steps.

• Policy research which tends to follow the divides among the academic disciplines discussed above.

• Policy formulation and program design, which tend to use quantitative analysis in calculations of the distributional consequences and costs of policies – and on subjective judgements, based on past experience and political sense, to assess the higher level outcomes and indirect effects of those policies.

• Policy evaluation and experimentation which tends to be the most quantitative and comprehensive form of analysis, but which is often not directly connected with the analysis that led to the design of the program in the first place.

30. Bridging the divide between economic and social understanding. This is a divide that goes beyond the differences in the tools used by different academic disciplines. One view is that social and labour market policy is fundamentally about material well-being and the way it is distributed in society. This is not necessarily a narrow view. It encompasses services as well as goods, including those services that are produced outside the market. It can include cultural products, family transactions, the unintended market effects such as pollution, social capital and much else. However, at core, the view is that those elements of well-being that fall outside the material domain – those related to subjective feelings of happiness, sense of community and belonging, spirituality, guilt, love, feelings of alienation and so on – are not appropriate subjects of government policy. They belong to the private domain of life.

31. Others take a broader view and see human development as a whole that should not be fragmented into its economic and social components. In this view, non-material elements should be taken into account in our assessments of the ultimate effects of government policies, even though many would agree that they are seldom the direct output of specific government programs.

32. To the extent that these are real differences, they cannot be resolved by any descriptive conceptual framework. What the Olivia framework does, however, is provide a set of concepts that can be consistently used regardless of the point of view – particular the Module Four concepts that describe outputs, outcomes and purposes. The framework can therefore help bridge the many language barriers that now exist and enable more meaningful dialogue.

33. Bridging the divide between generations of analysts. The concepts we now use in policy analysis mirror what we currently measure. What we measure today is, in turn, a product of a computing technology that was current about a quarter of century ago. The computing technologies that are increasingly available today will enable us to develop and use quite new kinds of measures, ones that will considerably enrich the way in which we understand our society and the role of policy. The concepts in the framework outlined here have been designed to be compatible with these new measures, as well as with those in place today.

34. Unfortunately, in the policy world, most policy analysts and policy-makers – and many academic researchers – are only familiar with the older tools. There would be blank looks around many of today’s policy tables if the subject were to turn to micro-simulation techniques that create alternative universes of synthetic individuals and institutions, or to conducting evaluations in real-time as opposed to five years later, or to allow programming to be driven by actual evidence of what works at the level of particular individuals.

35. This lack of familiarity with the potential of current technology is a major stumbling block to excellence in policy-making – and is holding back potentially large gains in both effectiveness and
accountability. The framework, by itself, can’t fix that. However, by providing a common language that supports both older and newer ways of understanding, it creates a bridge between the two cultures.

1c) Uses of the framework – some practical examples

36. The best way of explaining the uses of the framework is through practical examples. We have provided examples in an annex. Readers may wish to pick and choose ones that interest them.

- Example 1. Broadening the scope of policy agendas
- Example 2. Efficient communications in and across social policy organisations
- Example 3. Making service interventions evidence-driven
- Example 4. Fostering openness and accountability
- Example 5. Bringing citizens to the centre of the policy process
- Example 6: Increasing the policy power of statistics, research and experimentation
- Example 7. Strengthening government’s knowledge products
- Example 8. Reducing ambiguity in discussions of higher order objectives

37. Readers interested in the application of the framework to life-course policies may be particularly interested in Example 1.

38. Readers interested in program effectiveness could find that Example 3 is important and also Examples 6 and 7.

39. Readers interested in accountability and openness may wish to look at Examples 4, 5, 7, and 8.

40. Readers interested in the internal operations of government, such as knowledge planning, public engagement and consultation, and internal communications, may be interested in Examples 2, 5 and 6.

1d) Where do we stand in terms of implementation?

41. The framework is evolving and will continue to evolve. Parts of the framework are, however, more mature than others.

42. In its current version, the concepts of Module One have been examined from many perspectives and appear to be quite stable, as does the transitions/trajectories analysis of Module Two. They are ready for wider use. HRSDC, for example, is now working on a practical lexicon giving working definitions and referring to related measures. The concepts of Modules Three and Four have been added more recently and warrant further scrutiny. As well, the asset concepts of Module Two need further elaboration, particularly dealing with human capital and social capital.

43. In terms of uses in qualitative applications, the concepts have received positive reaction, including by those involved in administering front-line literacy programs, who feel that the concepts can help them tell the stories of their clients in an effective way. However, much work in different qualitative applications is
needed and it would be surprising if this did not result in considerable fine-tuning. Here we think the framework has reached the status of beta testing.

44. In terms of quantitative applications, the measures proposed for Module One and Two concepts are solid – at least when concepts are taken one at a time. This is not surprising since, wherever possible, the proposed measures were chosen to be consistent with those already used in the national statistical system.

45. The power of the framework, however, is not seen when looking at concepts and measures one at a time. Its real promise on the quantitative side lies in integrated, finely-grained statistical descriptions of the entire society – and of the linkages between public policy and the society it serves. Such measures can only be created by sophisticated models that are fed by data from many sources. It will be many years before such models, and their associated data sources, can be developed to a point where all four modules of the framework can be fully measured on a consistent, detailed basis.

46. That said, a great deal of progress has been made to develop the needed tools in recent years. In Canada, at least, we have tools of modelling life-courses that already go some considerable distance in meeting the promises of Modules One and Two. These are described in the technical report. There has also been recent progress on the spatial modelling associated with Module Three. Huge investments are being made in similar enterprises in the area of health care, although these may make take longer to develop because of the greater difficulties of measurement there.

47. In summary, there is a good base on which to build the quantitative dimensions of the framework in an evolutionary manner. The framework, in effect, provides a broad map that will help in planning the R&D investments that will be required.

2. MODULE ONE: DESCRIBING PEOPLE, INSTITUTIONS AND RESOURCE FLOWS

2a). The resource flows model

48. The heart of the framework lies in its description of the interactions and transactions among people and social groups. Suppose that we have a world with three individuals and three institutions (institutions are our name for social organizations). Figure 1 shows the basic flows of resources among them.

49. In this simplified world, our language would comprise a set of consistent words and numbers that describe:

- The characteristics of individuals 1, 2 and 3 and of institutions 4, 5 and 6 at any point in time.
- The resources – time, money, information, and goods/services – that flow among the individuals and institutions at a point in time, as represented by the two-headed arrows in the diagram.

50. The box on the next page illustrates this model for one person, Olivia, and the resource flows between her and a few of the people and institutions she dealt with yesterday.
Figure 3. Basic resource flows model
The example of Olivia

Suppose that:

- Individual 1 is Olivia, the star of early versions of the framework.
- Individual 2 is her child, Marie.
- Individual 3 is a neighbour with whom she shares a drive to work.
- Institution 4 is Olivia's employer, J&C Insurance Operations.
- Institution 5 is the income tax system of the Government of Canada.
- Institution 6 is the gym at the community centre where Olivia works out.

Standard concepts to describe Olivia

We would describe her today, when she is age 52. There would be standard ways of describing her background and how her life unfolded, including the characteristic of her parents, of her early upbringing, of her schooling, work and family relations, where she lived, her assets, her values and expectations.

Standard concepts to describe her resource flows

We would also have standard ways of describing in detail the interactions and resource flows that took place yesterday. The basic resource flows model can be illustrated by looking at a few of the things that happened to Olivia yesterday. The double-headed arrows to and from the Olivia in Figure 1 show that, among many other flows that took place yesterday:

- Olivia and her daughter. Olivia gave Marie her allowance (flow of money), made her breakfast (flow of goods and services), read her a bedtime story (flow of the resource of time), and told her where she could find her winter coat (flow of the resource of information). Marie, on the other hand, told her mother about her day at school (flow of information). Marie, by definition, spent the same amount of time with her mother as her mother did with her. There was no flow of money or goods and services from Marie to her mother that day.

- Olivia and her neighbour. They commuted to work in Olivia's car, as they did every weekday (mutual flows of time). There was an implicit transfer from Olivia to the neighbour in the form of the gas used, the depreciation on the car and Olivia's services as a driver. By mutual agreement, this was compensated for by the neighbour paying for the gas once a week.

- Olivia and her employer. Olivia provided J&C Insurance Operations with eight of hours of work (flow of time) and received $175.00 in pay in return (with the actual pay cheque of $1750 (175 x 10) being deposited in her bank every two weeks. Her day's work also contributed to building up her store of sick leave, annual leave, company pension and the like.

- Olivia and her taxes and benefits. As a consequence of her day's work, Olivia also paid the Government of Canada the income taxes associated with the pay she received for that work – via a payroll deduction, with the actual calculation reflected on her pay stub every two weeks.
  - Her earnings were similarly used to pay for EI, CPP, and provincial income taxes. In return, she received a child tax credit (which would arrive in a lump sum in two months' time).
  - As well, yesterday she made use of a wide range of government services, such as the road she was driving on, the water and sewage at her home. She heard about Statistics Canada's latest unemployment figures on her car radio (flow of information from the government to Olivia, via an intermediary).

- Olivia at the community centre. She pays a fee and, in return, spends 45 minutes on their exercise machines three mornings a week. This activity is important to Olivia's social capital. She formed friendships there that extend into other dimensions of life. For example, a person in the group of friends who exercise together became unable to drive her car for health reasons and is being helped by the others. Yesterday evening was Olivia's turn to drive her to the grocery story (two hour flow of time).
2b) **Standard ways of describing individuals and institutions**

51. This section outlines the general concepts that we use to describe that individuals and institutions shown in Figure 3. Work is proceeding in parallel on setting out precise, measurable definitions for each concept, where appropriate building on existing definitions used by Statistics Canada.

**Descriptors of individuals**

52. The framework describes individuals under the following headings:

- **Background descriptors.** Selected characteristics that individuals were born with, or that arose out their environment when they were born, including characteristics of the individuals’ parents – their education, income, wealth, ethnicity, race, etc. The characteristics selected are those that are most likely to affect the subsequent unfolding of the individual’s life in society, including in the labour market and in learning activities.

- **Descriptors relating to current flows of resources to and from the individual.** These are the resource flows shown in Figure 3: time, money, goods and services, and information.

- **Descriptors related to assets.** These are the characteristics of individuals that result from the accumulation of previous resource flows (human capital in the form of skills and health, housing, financial capital, social capital), as discussed in Module Two.

- **Descriptors related to life-course transitions.** As will be described in Module Two, transitions are the large changes or discontinuities that occur in resources flows over the course of life. Transitions include, for example, the beginning and end of marital and related unions, the birth of children, graduation from elementary, secondary and tertiary education, the beginning and ending of jobs and periods of unemployment, and the beginning and end of periods of sickness and disability.

- **Descriptors related to life-course stages.** Many important characteristics that people acquire during a transition stay with them during subsequent stages of their lives. Educational attainment is one. Disability and health status is another. Occupation is another characteristic of this sort that warrants deeper analysis in the life-course context.

- **Descriptors related to the space and time in which activities take place.** These are discussed in Module Three.

- **Descriptors of well-being,** including expectations, values, stress and perceptions of well-being or happiness. These are discussed in Module Four.

**Descriptors of institutions**

53. We now turn to a standard way of describing the groups to which individuals belong. We refer to all groupings as ‘institutions’. Institutions include:

- Formal groups such as a family, a firm, a school or a social organization.
• Networks that have a looser structure and can include, for example, on-going contacts with friends and business contacts.

• The programs of governments and public institutions.

54. A large firm can have many locations across the country. A government department may have many programs. In the framework we describe small units such as workplaces or individual programs that can be later aggregated up in a flexible manner. These small units – our units of analysis – are described in the following box.

<table>
<thead>
<tr>
<th>Types of institutions and units of analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Market Institutions and institutions with employees (where the workplace is the unit of analysis)</td>
</tr>
<tr>
<td>1.1 Firms – market institutions where the basic unit of analysis is the workplace – the location where people work. Workplaces can be added up into larger groupings such as establishments, firms, enterprises and sectors. The self-employed are also included here for purposes of market-related analysis.</td>
</tr>
<tr>
<td>1.2 Non-governmental (third sector, or voluntary) organizations, where again the basic unit of analysis is the physical location of the place where the employees and volunteers work.</td>
</tr>
<tr>
<td>1.3 Public institutions such as schools or hospitals, again where the basic unit is a specific school or hospital or prison in a particular geographic place.</td>
</tr>
<tr>
<td>1.4 Government proper (when we are looking at the government in its role as employer). We use the workplace as the unit of observation for some applications, such as in assessments of service delivery or in comparisons with other employers. However, the usual unit of analysis is the program, as described below.</td>
</tr>
<tr>
<td>2  Other institutions and networks</td>
</tr>
<tr>
<td>2.1 Families, where the most common unit of observation is the economic family (a group of two or more persons who live in the same dwelling and are related to each other by blood, marriage, common-law or adoption). We also include individuals living by themselves in this category. The framework is flexible and also allows for analysis of other family groupings including the nuclear and extended families. However, the economic family is particularly useful as a unit of analysis since it can be used to locate the family in a specific dwelling. In turn, this allows us to locate the family (or individual living alone) in space and in historic time, as we will see later. The economic family also allows us to make calculations of household economies of scale and takes into account that many resources are shared among people living together.</td>
</tr>
<tr>
<td>2.2 Social networks where, in most applications today, it is the individual that is the unit of analysis. That is, we tend to look at an individual’s network of contacts rather than at the characteristics of the network itself -- although this approach may change as social capital analysis becomes more mature.</td>
</tr>
<tr>
<td>2.3 Programs and policies of governments and other public institutions, which is the usual way of looking at the role of the public sector as opposed to the more specialized workplace applications referred to above. In most applications, we use the ‘program’ as the unit of observation. Examples of programs include Employment Insurance, the National Child Benefit, personal income taxes, regulations of many sorts, and the census. We can also use the program to describe the activities of organisations that deliver government services under a contract, grant or contribution agreement. These program-based applications are discussed further in Module Four.</td>
</tr>
</tbody>
</table>

55. The approach to categorizing institutions shown in the box is similar to the market-state-family-community typology that is commonly found in the social policy literature. However, it adds a few nuances:

• The break-out of public institutions from government proper is important. Governments proper have a law-making, regulatory role that makes them quite different from the other institutions. They set the rules for the other players.

• The addition of informal social networks recognises the potential importance of social capital to social and human resources policies – even though we still have a way to go in defining which
social groupings are sufficiently well-established, with a life of their own, to warrant independent examination.

- The alternative units of analysis for governments and public institutions – workplaces or programs – will help analysis. However, they will pose some practical development challenges since there is currently no standard way of classifying programs among different orders of government.

**Standard institutional descriptors**

56. There will be differences in the way in which we describe each of the types of institutions referred to in the box, and the descriptors will vary depending on the policy application in question. Nevertheless, they are all variants of the same basic approach that we used to describe individuals:

- *Background descriptors including those related to life-course stages.* Organisational structure, size, legal status, main product lines, etc.

- *Descriptors related to current resource flows and processes (inputs-processes-outputs).* We build on the two-way resource flows outlined in Figure 3. Flows to the institution are referred to as *inputs*. Flows away from the institution are called *outputs*. Processes are the means by which inputs are transformed into outputs. We return to the processes of government programs below.

- *Descriptors related to assets.* As with individuals, these are the Module Two stocks that result from previous flows. These include financial assets, plant and inventory, the human capital embedded in staff, and the social capital embedded in business networks and partnerships.

- *Descriptors related to transitions.* As discussed in Module Two, the framework invites us to explore the role of transitions in the lives of institutions as well as in the lives of individuals. However, this is largely unexplored territory.

- *Descriptors of time and space.* This is similar to the descriptor used for individuals, except that the workplace, and not the house, is the unit of observation. See the discussion in Module Three.

- *Descriptors of purpose.* For market institutions, these are usually profits, market share or (for firms in the social economy) social goals. For public programs and many non-profit organizations, they are social and economic objectives – which we refer to as expected outcomes. The schema is simple enough. All that we have done is to add outcomes to the current resource flows descriptors above so that they become ‘inputs-processes-outputs-outcomes’.

**Describing public programs**

57. An additional set of descriptors – by instrument type – is used for programs of governments and public institutions:

- *Instruments based on income transfers/taxes to individuals and institutions.* These are programs that flow money to and from individuals (and institutions). Public pensions, the income tax system, and EI are examples. These instruments typically have some combination of the following purposes: redistributing resources over the course of individual lives (e.g., pensions), redistributing resources from one group to another (e.g., social assistance), insuring against large risks (e.g., health insurance), and raising revenues to fund other instruments (e.g., income taxes).
• **Instruments based on income transfers to other orders of government or to public institutions** such as hospitals or schools – so that the other party has the fiscal capacity to provide income transfers to individuals, services, rules and/or information.

• **Instruments based on rules and their enforcement.** Here governments set the rules that govern key aspects of the operations of markets, families and communities. Instruments based on rules apply to *trajectories*, as discussed in Module Two.

• **Instruments based on the provision of information** such as how-to-information, descriptions of labour market and learning opportunities, national and community statistics and promotional material.

• **Instruments based on the provision of services**, such as education and training, counselling, health care or active labour market programming. The purpose is typically to invest in human capital in a way that will result in subsequent social and economic gains.

  *(The processes used in service instruments are the elephant in the room. They are hugely important but are almost entirely ignored in the way we measure things. Understanding the processes of service delivery is increasingly important as policy is shifting from a passive approach with heavy reliance on income transfers to a more active (and often more targeted) social investment approach that is mainly based on services.)*

  *For example, we may have some notion about the curricula that is supposed to be taught in schools. We can read the (typically very general) instructions that funders provide to service providers. However, our measurement systems often provide little information on what actually happens in the classroom – or in the doctor’s office or in the content of an active labour market project. We often lack the standard terminology that would be needed to undertake consistent descriptions of these processes, let alone common measures. The technical paper gives examples of process descriptors.)*

2c) **Standard ways of describing the resource flows**

**The flows are multiple and two-way**

58. Let us go back to Figure 3 and examine the two-headed arrows that link individuals and institutions. These arrows stand for resource flows. We can describe almost everything that we want to know about the activities of people and institutions by examining resources flows – of money, goods and services, information and time – at specific points in time:

• The two-way flows of money and of goods and services reflect market transactions. These flows are the same as those used in economic analysis and statistics. They add up to GDP and national income.
The flows involving the use of time are even more basic. There are only so many hours in day, a year or a lifetime. These hours are all used in one way or another. When time is spent working in the market, wages provide a direct link between time-based accounts and money-based accounts.

Information flows are also important in our model, even though they have not yet been fully fleshed out. Information flows often supplement other flows, but can also be a substitute for them.

59. The emphasis placed on the resource of time is particularly powerful. It allows us to go beyond the much-studied economic transactions that motivate our lives and to begin to understand the implications of a much broader range of motivating factors such as altruism, gifts and their resulting obligations, rivalry, guilt, love or addiction.

60. By anchoring the framework in time-use, we can develop zero-sum accounting frameworks that can be most useful for analysts. There are only 24 hours a day and they must all be used up – at work, in leisure, in school, in sleep, in care-giving, etc. This allows analysis of the use of time in a variety of interesting ways, knowing that – at the end of the day – everything will still add up. The box on the next page suggests why time can be considered as the ultimate integrator in policy analysis.

61. The emphasis placed on multiple, two-way, flows is also important. It allows us to examine the way people support others and, in turn, receive support. It reflects the mutual responsibilities that underlie our basic social contract – the rough balance between what people and institutions receive and give back to others.

...allowing an examination of assets as well as flows

62. Over a long period of time, the total of flows coming to an individual or institution usually adds up to the total of all flows going out. At a single point in time, however, there may well be imbalances. An examination of these imbalances shows how the individuals and institutions in question are building up, or depleting, their assets for future use.

The ultimate integrator: classifying uses of time, at a point in time

All resources flows (money, time, information, and goods and services) are included in our definitions. However, particular emphasis is placed on classifying the way the individuals use their time in a recent 24-hour period. Time use is a powerful tool for integrating a range of descriptive information. We can classify time spent:

- By the purpose of the activities undertaken during that time: such as market activities, learning, caring, active and passive leisure, etc. We can also keep track of simultaneous purposes such as watching TV and caring for baby.
- By the physical space where the activities occurred. This allows us to situate the individual in specific neighbourhoods and cities and in the context of the historical events that were taking place at the time, as discussed in Module Three.
- By the interactions that took place with other people and with formal and informal institutions. This allows us to develop our measures of social capital and linked lives.
- By constraints that affected the use of that time – physical or mental disabilities – scheduling and time conflict problems (including time crunches), access constraints (being in prison, or having no access to
public transport). This information on constraints is often captured in surveys by asking about reasons for not undertaking an activity.

- By the ‘learning/skills intensity’ of activities. This is a phrase that we invented to act as a place-holder for the kind of standard measure (or set of measures) that we would ideally like to develop, namely measures of the learning that takes place during the activity, as well as the skills, knowledge, aptitudes and abilities that were applied during that activity. Currently, we only have proxy measures available for this central human capital concept, and these are often quite rough. Some good work has been carried out in Canada and abroad on the skills side of the equation, particularly in allowing occupational classifications to be translated in terms of the skills used in those occupations, including essential skills. Less work has been done on the learning side, an obvious priority for further development.

- By the ‘networking intensity’ of interactions with other people. This is another place-holding phrase which we have invented. Not all social interactions are important in building social networks and social capital. The goal would be to develop a standard way of measuring those that do. We currently must make do with proxies – again often quite rough proxies.

- By perceptions of well-being associated with that activity, and by constraints on the use of that time, as discussed at greater length in Module Four.

As noted, time-based accounts provide a powerful addition to the more familiar money-based accounts – with two being linked by wages in the case of time spent in market activities. In the past, attempts have often been made to compare market and non-market activities by artificially calculating the monetary value of the non-market activities. However, direct comparisons based on time spent in both types of activities is far more useful in most policy applications, making use of the obvious but powerful fact that there are only so many hours in a day – hence allowing the development of simple but elegant systems of time-based accounting.

This question of balance is obvious in the case of money and goods/services. We receive a fixed dollar income in, say, a month. If we spend more than that on gifts, goods and services, we gain in the present but are building up debts that will restrict future consumption choices. If we spend less, we are building up savings that will increase future choices. Time is, by definition, always in balance (since we cannot ‘save up’ time to be used later), but by classifying the uses of time we can get a good understanding of how assets or capital is built up. For example, time spent learning builds up our human capital (i.e., our skills) for later use. We return to an examination of assets in Module Two.

2d) Using the model: putting people in the center

We can begin to see the power of the resource flows model when we place an individual – or group of individuals – into the centre of our network of flows. Figure 4 expands on Figure 3 to show a more complete range of flows to and from individuals. Most social analysis is based on some variant of Figure 4.
65. Individuals are at the centre, where they belong. Some lines have been left off Figure 4 to make it intelligible. These are the (unshown) resource flows among the institutions that surround the individual on the chart. An example would be the flow of a government subsidy to an employer to create workplace child care facilities – which could in turn benefit the individual at the centre of the chart.

66. If the analysis in question is a qualitative study, the individual at the centre of Figure 4 could be a particular individual. A narrative about Olivia, for example, would describe her resource flows – how she spent her time and money, how she related to others – at different points throughout her life.

67. However, in more typical statistical analyses, we will place groups of individuals with specified characteristics – such as retirees, people in different occupations, the working poor, students living in Nova Scotia, or single mothers – in the centre. The information flows would be typically shown in the form of statistical tables, charts and the results of regression analysis – such as a table showing the income inflows of retirees or the working poor by source of income, gender and 5-year age group.

68. In the example in Figure 4 we examine the resource flows to and from the individual and:

- The workplace – mainly flows of time (hours worked) and money (wages paid).
- The markets for goods and services (where we spend our income).
- Other family members in the same household. Time spent in the giving and receiving of care, and time spent in housework are key flows here.

Additional information in the technical paper

Similar material is presented that place workplaces and government programs in the centre of the chart – as opposed to individuals.

A discussion of how the analysis can be readily extended to schools and other places of learning – or to particular types of government policy such as taxation, or to particular policy dimensions such as evaluation or public engagement.

A discussion of how the analysis can be extended to families, generations and cohorts – including matters relating the generational contract and to sustainable development.
Figure 4. A more comprehensive view of resource flows to individuals or population groups

NOTE: The two headed arrows in these charts suggest that there can be two-way flows in any of the resources: time, money, information, goods, etc. It is not meant to suggest that there are equal flows at any particular point in time for any one resource. For example, often money is exchanged for time or for goods and services. Or, in any period of time, money inflows can exceed money outflows.
• Community and other non-governmental organizations, where there could be flows of time spent volunteering, charitable donations and the like.

• Networks of friends and contacts that are used to build up and maintain social capital. Time and information are the main resources that flow.

• Governments – mainly flows of money to government in the form of taxation and information (e.g., completing the census questions) – with a variety of flows to the individual, such as tax credits, employment insurance, pensions, information, and services.

• Public institutions such as schools. In the case of post-secondary education, there would be flows to the institutions in the form of tuition fees and flows back of time spent in learning and in the receipt of information.

69. Not all social development and human resources analysis is about individuals. In some cases, an institution such as an employer or a government program is the centre of attention. The framework shown in Figure 1 is readily shifted to the kind of application in question – whether social or economic. Firms, learning institutions, and government policies can equally be moved into the centre of the analysis.

3. MODULE TWO: DESCRIBING THE LIFE-COURSES OF INDIVIDUALS AND INSTITUTIONS

3a) The basic approach

70. It is perhaps obvious that people’s present lives are greatly influenced by what has happened to them in the past. What happens to people when they are babies can make a big difference to their future health. What happens in the pre-school period can make a big difference to success in school. Success in school makes a big difference to success in the labour market, and so on. Lack of saving during one’s middle years can lead to reduced income in retirement.

71. Yet it has not been easy to incorporate the obvious into policy analysis, mainly because of the lack of longitudinal data that can track how people change and evolve over time. Fortunately, better longitudinal data has become increasingly available in recent decades and it is important that we have consistent words and measures to allow us to incorporate this dynamic aspect of the lives of individuals into our policy analysis. The Olivia framework, of course, fully supports longitudinal analysis. Indeed, supporting life-course analysis was the original *raison d’être* for the framework.

72. The basic approach to keeping track of changes over the course of life is simple enough in principle. In the case of individuals, all we have to do is keep repeating the cross-sectional point-in-time descriptions of hours spent that was discussed in Module One. For example, we could – at least in theory – simply gather information on how time was spent in a 24-hour period at selected points during the life of an individual. A similar approach can be used to keep track of changes in the lives of institutions, but here we are would typically use changes in financial data and in ownership arrangements, rather than hours.

73. What is missing is a consistent typology that will allow us to know which changes (or transitions, as we will refer to them) in either hours or dollars are significant enough to warrant being separately identified and measured. This section sets out a conceptual framework for doing this. We start with individuals, where two complementary approaches are used:
• Life-course transitions and trajectory analysis. Life-course analysis is in its early stages in the policy world, although it is familiar territory in some of the social sciences. This is the technique we use to divide up a person’s life into manageable chunks called trajectories, and to show the various transitions that take place within and across these trajectories.

• Stock and flow analysis from economics and accounting, which shows how the point-in-time resource flows discussed in Module One translate into assets that can be used in the future. It complements the trajectory analysis above by showing the continuities that run across the various transitions in life.

3b) Transitions, states and trajectories

74. Basically, we divide an individual’s life into various domains such as life in school, life in the family, and life at work. Most people, when they are thinking of their lives and their experiences, tend to group those experiences in this way – understanding our lives at home, in school and work. We refer to these as trajectories. A trajectory consists of transitions and intervening states. For example:

• A state (or stage of life) might consist of holding a particular job or being married to a particular person, or going to elementary school.

• A transition might be losing that job, getting a divorce or moving on to secondary school. Transitions are defined as large changes or discontinuities in the resource flows shown in Figure 3 in Module 2.

• A trajectory consists of sequences of transitions and states in the main domains of life. As an example, a work trajectory would include a person’s lifetime experience in the labour market, including various transitions (losing, finding, changing jobs) and states (holding jobs of different tenures, various periods of job search or training to find new jobs).

75. The trajectories can be distinguished from each other by the type of rules that govern them. For example, the work trajectory is marked by government regulation of market transactions and by workplace regulations regarding, for example, health and safety or working hours. The household trajectory is government by family law. For schools, governments set mandatory ages of attendance and set rules about what is taught. In some trajectories, the non-legal rules of society (such as those related to gifts and the obligations associated with receipt of gifts, trust and reciprocity) may play a larger role than those that are entrenched in law.

76. Figure 5 on the next page shows three trajectories for Olivia: her life with her family at home, her life at school, and her life at work. Other trajectories could be added depending on the kind of analysis in question – such as her volunteering life, her life as a care-giver and receiver, her life in sports, her life in her extended family or her health and health care life.

77. In earlier versions of the Olivia framework we used the metaphor of life being a multi-stranded length of rope, with birth at one end of the length and death at the other. The trajectories were the different strands that made up the rope. We eventually rejected the metaphor as being too complicated, but it is nevertheless important to remember that trajectories, while separate, reinforce each other in the context of person’s whole life. Certain rules, for example, apply to the rope as a whole, not to any specific strand of that rope. Charter rights, and human rights more generally, are examples.
Figure 5. Life-course trajectories for an individual

**Household trajectory**

- Living in a two-generational household
- Living alone
- Living in a one-generational household
- Living in a three-generational household

**Formal workplace trajectory**

- Not active in labour market
- Full-time
- Part-time
- Changes
- Unemployed

**Learning trajectory**

- Not participating in formal learning
- Initial schooling
- Active labour market
- Intervention, training
78. Each trajectory in Figure 5 is broken up into different states, or life stages, that are marked by big transitions. These transitions link back to our point-in-time basic resource flow model in Figure 3 and allow us to extend that model over time. As noted, the transitions in question are simply major breaks in the resource flow patterns shown in that figure. For example,

- The birth of a child is reflected by adding flows of resources to an entirely new individual.
- Conversely, losing a job is reflected by the removal of an institutional connection from the chart and the associated loss of time spent in paid work.
- Shifting to full-time work is a major addition to the time spent at work.

This way looking at lives in terms of transitions, states and trajectories is helpful in policy applications:

- Many policy applications focus on transition points in life – becoming unemployed, starting school, having a child, getting divorced. People are supported by family, work, schools and community. They can be particularly vulnerable, and may need added government support, when there are large transitions in several trajectories at about the same time, say when a period of unemployment takes place at the same time as family breakdown.
- More generally, this framework of transitions and trajectories allows us to better understand the real world where policies have their effect: a world that involves the sequencing, timing and duration of life events such as finding jobs, family formation, training and care-giving – and the inter-relations among those life events.
- It is particularly helpful in providing a better understanding of how policies may have different effects on people of different generations or cultures (such as recent immigrants and Aboriginal Canadians) where the life-course patterns may differ.

3c) Continuities: the role of assets in the life-course

From flows to stocks

79. Our lives are marked by both changes and continuities. The transitions and trajectories concepts provide consistent ways of compartmentalizing life and showing how it changes over time. Stock and flow analysis, on the other hand, allow us to describe the continuities in life, how what happens in different stage of life gets carried across transitions and influences what happens at subsequent stages of life.

80. Module One described resource flows at different single points in the life of an individual. We now discuss how these flows get carried over time. We can store up some resources for use during a later period of life – or, in some cases, we can borrow against anticipated future flows. The flows therefore get converted into stocks or assets. This business of saving resources obtained at one time for use at a different time is critically important to understanding social and economic well-being.

81. In the framework, we measure four kinds of assets:
• Financial capital such as our personal savings (or our debts, which are negative savings). These result from the combination of all the money flows shown in Figure 3.

• Physical capital such as a house, a car or other possessions. These again result from the flows of goods and services shown in Figure 3.

• Human capital which consists of the skills, knowledge and capabilities that are embedded in people and that can be used in the market or in society. It also encompasses health, with we discuss separately at the end of this section.

• Social capital, which consists of the potential resources that are embedded in people’s networks – the people they know and with whom they have contact.

82. Figure 6, for example, takes one resource flow, inflows and outflows of money, and shows how the flows change over the course of Olivia’s life. In order to have a comprehensible graph, we have shown the financial inflows and outflows for four selected points in her life – when she was 20, 40, 60 and 80 years of age.

83. Figure 7 shows how flows get converted into assets. This chart covers all her assets, not only financial assets, and covers the entire period of Olivia’s life – not only the four points in her life that was found in the preceding figure.

• Financial capital. The top section of Figure 7 translates the financial flows over Olivia’s life into her financial capital (bank accounts, investments, pension savings, etc.). These reflect the income flows shown earlier in Figure 6.
Figure 6. Looking at one resource flow at four points in time

Olivia's income, expenditures, and savings at four specific times

- Market
- Family
- Government
- Formal
- Community
- Savings/Debts

Household

Workplace

Formal Learning

Earnings from summer job and part-time work
Household expenditures that support her children
Interest received
Her expenditures on food, shelter, etc.
Gift to grandchildren
Income from public pensions, tax credits
Taxes
Donation to charity
Private pension, annuity from late husband
Olivia continues to save

Her personal expenditures and her share of household expenditures
Social assistance, tax credits
Her own earnings
Gift to grandchildren
Income from public pensions, tax credits
Taxes
Donation to charity
Private pension, annuity from late husband
Olivia continues to save

Her share of pooled family income
Her personal expenditure and share of household expenditures
Her own earnings
Gift to grandchildren
Income from public pensions, tax credits
Taxes
Donation to charity
Private pension, annuity from late husband
Olivia continues to save

She pays her parents for room and board in summer
Her personal expenditure and share of household expenditures
Her own earnings
Gift to grandchildren
Income from public pensions, tax credits
Taxes
Donation to charity
Private pension, annuity from late husband
Olivia continues to save

Student aid, tax credits
Her share of husband's (higher) pooled earnings
Taxes
Charitable donation
Private pension savings

Tuition and educational expenses
Ongoing class fees
Charitable donation
Private pension savings

Student loan
Charitable donation
Private pension savings

Personal expenditures
Charitable donation
Private pension savings

Gift from her parents
Charitable donation
Private pension savings
Figure 7. How Olivia built up and used her assets

Financial Capital (in dollars)

Physical Capital (in dollars)

Human Capital Index (a)

Social Capital Index (b)

(a) Human capital in this table refers to the stock of people's skills, knowledge, aptitudes, and abilities, with the index showing the relation to the average skills of all Canadians, averaged over life. Values of less than 1.0 show skills that below this average, while values of 1.0 or higher indicates that Olivia's skills at that point in her life were equal to or greater than the average.

(b) Social capital in the table refers to the stock of Olivia's contacts at any point in time, weighted by the significance of the network of which those contacts are a part. The same approach as in human capital is used to calculate the index.
Olivia’s assets

Figure 7 shows us that most of Olivia’s assets grew over the course of her life and were highest after the age of 50. Social capital is the exception where she had strong networks when she was young and, again after the age of 50. Her social capital index was lowest in her mid 30s, after her divorce and her staying at home with the children.

Sudden shifts in her resource position came when she married at age 47 and her husband’s salary, pension and other savings became a shared resource. Another large shift from financial to physical assets occurred when they purchased a house at age 50, and a comparable shift the other way when she sold her house before entering a nursing home late in life. Although we do not show this on the chart, the reality is that Olivia also had good financial assets when she was young and lived in her parent’s house. That is, the house belonged to her father, but all family members had use of that asset. If we had shown those shared assets (e.g., use of the family car, TV, having nice clothes, etc.), this section of the chart would have had a U-shape – high early and late in life, and lower in the middle years.

There was deterioration in her human and social capital later in life, reflecting the death of her husband and retirement from both work and voluntary organizations. However, at least in Olivia’s case, there was no deterioration in financial assets. She lived modestly on public pensions, and drew down little of her private pension’s wealth. She received no significant inheritance when her husband died, apart from his pensions and his share of the house.

Social capital was high when Olivia was young, with strong family bonds and many contacts in school (especially her elementary school) and community. When Olivia graduated, that capital declined as she had few contacts at work or in her new neighbourhood. There were large fluctuations during the period in her late 20s and early 30s when she was out of work, moved, and separated, living with her parents and then alone with her young children. She lost social capital associated with work and neighbourhood contacts, but later gained new social capital through her increasingly active role in the community during the later part of this difficult period.

• **Physical capital.** The next section of Figure 7 shows physical assets (mainly housing and cars). These are measured in dollars and again simply reflect prior monetary transactions and the current state of the market. Note that the chart shows virtually no financial or physical assets until age 20. Her parents had assets but, for simplicity of presentation, her share of those assets is not shown.

• **Human capital.** The third section from top of Figure 7 shows an index of human capital. It is in the form of an index that compares Olivia at different points in her life to a national life-time average of all Canadians. When Olivia’s index is above 1, she fares better, when it is below 1, her human capital is lower than those of that of the average Canadian. More generally, human capital consists of a person’s capacities: skills, aptitudes and abilities, as well as health and disability measures that would show constraints on the use of those capabilities. Descriptors would show how human capital was built up, used and depreciated over time.

• **Social capital.** The final section of Figure 7 shows a social capital index for Olivia. It was constructed in the same way as was the human capital index. Social capital is the potential for drawing down on investments in networks of friends, relatives, colleagues and acquaintances. The inflow can be seen as all the flows of time spent with others that is shown Figure 4. The outflows can be in seen in the form of money, services or, often, time spent in providing advice and support, again as shown in Figure 4.
A description of approaches to measurable human capital concepts, including:

- The traditional approach of using educational attainment as a proxy has limited use because it does not include learning that takes place in family and work settings.
- Probably the best direct measure of human capital today comes from the adult literacy survey.
- The Lisbon Council, an EU think tank, is developing a comprehensive time-accounting measure based on investments in time spent in learning from parents, in school, in work, etc.

The Olivia framework is similarly time-based, but calls for the development of an individual-level classification of all daily activities according to their 'learning/skills intensity'. That would show how human capital is built up, depreciated, and used.

A discussion of the challenges in developing measurable social capital concepts. Some networks may result in important direct support to someone during a difficult period in their life. In other cases, the 'network' is more casual – e.g., commenting on the weather to colleagues in the office building’s elevator and thereby perhaps helping to create the immediate sense of well-being that is associated with being among friendly colleagues. The development of a standard way of classifying time by its 'networking intensity' may help us distinguish between these very different kinds of outcomes.

3d) Extending the life-course analysis

84. Life-course and asset-based analysis is in early stages of development in the policy world. Over time, we would expect to see this module extended to include:

- Human development more broadly defined, including an extension to cover the health.
- To social groups and institutions.

Extending the analysis to human development

85. The human development literature suggests that the mechanisms by which people develop can be described under three headings:

- **Cumulative mechanisms** involve multiple exposures over the span of life that have a cumulative effect on health and social development. An example is the effects of living in persistent poverty, with the whole intertwined set of negative factors associated with poverty.

- **Pathway mechanisms** are those where exposure at one stage of the life course influences the probability of other exposures at the next stage. For example, problems in early childhood development may lead to poor school readiness, which may result in poor learning in school, which may lead to dropping out of school, to low-paying jobs and, in turn, to low income and bad health in retirement.

- **Latency mechanisms** are those where an exposure at one point in the life course may lead to consequences often much later in life, without regard to what happens in the intervening period. In health, this puts much focus on the period around birth where changes in the immune and other biological systems of the body that may have effects in later life. In human resources and social development, it puts the focus on things that happen in periods where the brain is changing, in early childhood and in the teenage years. Our genes have a lot to do with who we are and how we develop.
86. The framework described to date provides strong tools for describing the pathway and cumulative mechanisms, but it lacks the biological and health descriptors that are needed to describe the latency mechanisms. More generally health, including mental health, has large and obvious consequences for social well-being. The determinants of health and social well-being overlap to large degree, with causality running both ways. Adding health to the framework is a priority.

**Extending the analysis to social groups**

87. Figure 7 is about one person only. Similar kinds of analysis can be applied to groups of people sharing common characteristics. How do at-risk groups differ in the balance of assets they hold over the course of life? Do baby boomers have similar asset-holding patterns to older cohorts? How much do children copy the lifetime asset-holding patterns of their parents? How does stock/flow behaviour vary by people in different occupations and educational attainment levels? Which kinds of social networks best support the integration of recent immigrants? To what extent should asset-building be a tool to support those at the bottom on the income spectrum? How can public policy best take account of the ‘use it or lose it’ phenomenon that seems to be associated with human capital?

**Extending the life-course analysis to institutions**

88. Asset analysis, of course, equally applies to institutions such as firms, where it plays a large role in our traditional approaches to accounting and to our understanding of economic growth. These applications are well known and need no further elaboration here.

89. In principle, life-course analysis can also apply to institutions, although these applications are not well developed, at least in the policy literature. Institutions too evolve over time and build up and deplete their assets. They too go through transition points in their institutional lives: changes in ownership or control, changes in lines of business, introduction of new technologies in firms and new curricula in schools, and conversions to new products or services. Paralleling our description of individuals, it may be instructive to think of these transitions taking place in different domains or trajectories in the life of the institution – the legal/financing trajectory (e.g., incorporation, mergers, bankruptcy), the workplace trajectory (changes in human resources policies, changes in geographic location), the technology trajectory (changes in processes) or in the business line trajectory (changes in outputs or clients).
4. **MODULE THREE: ANCHORING INDIVIDUALS AND INSTITUTIONS IN GEOGRAPHIC SPACE AND HISTORIC TIME**

90. In recent years, much attention has been placed on the importance of place-based policies – on getting nearer to the level of the individual citizen and drawing on a wider range of community resources. The framework helps in understanding this more local dimension of policy making – and in linking the local to the global.

91. Modules One and Two have focussed on the individual and the institution. Module Three sets out a consistent approach to describing and measuring the geographic spaces in which the individuals and institutions are situated, including the history of those spaces.

**Describing spatial hierarchies**

92. Spaces can be arranged in different hierarchies. It is important to get these hierarchies right. For example, a wrong choice in what we mean by local could result in harmful outcomes. For example, when we are talking about crime and victimization, physical neighbourhoods (possibly defined by city blocks) should likely be the focus of attention. On the other hand, if the issues relate to employment, the appropriate ‘neighbourhood’ is the local labour market area, typically defined in terms of commuting patterns and typically larger than most municipalities. If we tried to do ‘local’ employment policy at the neighbourhood level, we would get perverse results.

93. A common approach would be to start with a particular dwelling or workplace and then move up to neighbourhoods, municipalities, local labour markets, province/territory, the country as a whole, and then to groupings of countries such as the G7 or OECD countries.

94. Another hierarchy might run from the dwelling, to the boundaries of the local school district, to school regions within a province, to the province, to the nation and to other nations with whom we compare ourselves in terms of educational outcomes.

95. Because these hierarchies differ in the boundaries they use (e.g., the boundaries of health regions do not necessarily correspond with local labour market or electoral boundaries), the framework therefore starts in all cases with the geographic coding of the dwelling (in the case of individuals) and workplace (in the case of institutions). By starting with these basic units, we can build up a variety of hierarchies in a flexible, consistent manner.

**Describing the characteristics of spaces**

96. When we describe spaces – whether at neighbourhood or national level – many of the characteristics of those spaces can be derived from the individuals and institutions that occupy those spaces. Examples are the average age and income of inhabitants, average wages and sales, income taxes paid, ethnic composition or the number of schools and recreational facilities. This is simply a matter of adding up the geographically-coded individual and institutional descriptors of Modules One, Two and Four.

97. However, these internally-generated data would be supplemented by exogenous descriptors of the spaces. For example, we would have a common way of describing:

- The house where Olivia currently resides in terms of its size, number of rooms, durables contained in it, its market value, its state of repair, its ownership, etc.
• The neighbourhood to which the house is a part would be described in terms of the extent to which it was deteriorating or becoming rejuvenated, the crime rate, and environmental data such as pollution, weather, etc.

• Local labour market conditions.

• At higher aggregations (e.g., province, region, country as whole), we would also add macro economic data – where we are in the economic cycle, labour shortages and surpluses, etc.

98. Other spatial descriptors would be based on workplaces, not houses. Descriptors would include the quality of those work places for employees, including health and safety issues as well as descriptors related to productivity and innovation. Similarly, we could have data on class size, curricula and teacher qualifications for schools – or on the quality of community recreational facilities and hospitals.

Sustainable development and additional forms of capital

99. Geographic information has uses that go well beyond providing context for individual and institutional data. It can help us understand larger issues of sustainable development. In human resources and social development applications, sustainable development can mean two quite different things.

100. Sustainable development can refer to generational policies that leave future generations no worse off than existing generations. Here we can use the concepts of Modules One and Two, which provide a strong language for analysis. Because of their focus on the individual and on linked lives (including with their children and grandchildren), we can explore intergenerational relationships directly.

101. Or, it can refer to environmental policies whose objective is to ensure that one generation does not deplete natural resources, or leave a climate that will harm future generations. Here we use the concepts of Module Three, including descriptors of:

• Changes in climate or in natural resources in the areas in question – and the sustainability of those resources. In this kind of analysis we can take account of a new form of capital – the physical resources and natural capital of an area that are associated with a sustainable environment.

• Changes in the social infrastructure of neighbourhoods. In this kind of analysis we can take account of still another form of capital, the community and/or cultural infrastructure – libraries, sewers, religious institutions, community centres, public transport, parks, schools, galleries, and the like.

102. As the framework evolves, we see much interest in being able to examine the interplay among the types of assets of Modules One and Two (financial, physical, human and social capital) with those of Module Three (natural resources and community/cultural infrastructure). We will then have a common framework that invites us to explore both generational sustainability and environmental sustainability.
**Shared experience of history**

103. By anchoring an individual in physical space, we can also associate the individual with the historical trends that took place in those spaces – at the level of neighbourhoods and cities, as well as with trends at the provincial, national and international levels. This is particularly important in understanding differences among generations. For example, we can associate the individual in the context of:

- The state of renewal or decline in the neighbourhood during the time in which the individual lived there.
- The economic cycles and shocks that affected the city, again at the time when the individual lived there – whether the closing of a plant in a single industry town, low unemployment in a local labour market, or global economic trends that affect the well-being of all people living in Canada.
- Environmental and cultural events that shaped people’s health and views on life.
- Periods of peace and war that helped shape the expectations and sense of security of the different generations of people who live through those periods.

104. These historical effects are important in understanding how policies are likely to play out among people of different generations. The future generation of retirees will, for example, likely have quite different values than the present generation of retirees. Different values and expectations could make a huge difference to what constitutes good social policy for the future. Yet we now lack the tools to fully take account of these effects. The framework will help.

5. **MODULE FOUR: DESCRIBING PURPOSES: INSTITUTIONAL OUTCOMES, INDIVIDUAL WELL-BEING, SOCIETAL WELL-BEING**

105. Module Four sets out standard concepts to describe the purposes of individuals and institutions, and the extent to which those purposes have been achieved.

- In the case of individuals, we are interested in describing what people want in their social lives – their well-being or happiness – and the extent to which well-being is actually being achieved.
• In the case of institutions, we refer to the purposes as ‘objectives’ and the achievement of those objectives as ‘outcomes’.

106. We start with institutional purposes or objectives, and then turn to the less well-developed, and more complex, topic of individual well-being. Finally we turn to society-wide measures of well-being.

5a) Institutions and government programs: objectives and outcomes

107. In Module Two, we describe institutions using the familiar input-process-output-outcome model. The purposes and objectives of institutions relate to outputs and outcomes:

• **Outputs** are the goods and services produced by the institution. For a firm this might be the sales of the goods or services that it produces. For an income security program, the output might be cheques in the hand of beneficiaries. For a school, it might be the students who graduate.

• **Outcomes** are the higher level objectives or purposes that are being sought. For a firm, this might be profits or market share. Or, in the case of a social economy firm, it might be a social well-being objective. For an income security program, it might be that seniors have an income that allows them to maintain material living standards that do not fall on retirement. For a trainer, it might be that portion of the subsequent success of graduates in the labour market that can be attributed to the skills obtained during the training.

108. While the framework can be applied to all institutions, in this Module we are primarily interested in the outputs and outcomes of government policies and programs, as well as those of public institutions such as schools.

Describing and measuring outcomes and performance

...Describing the hierarchy of objectives

109. We live in highly developed world with complex and inter-dependent system of families, markets and public policies. It is rare when a single component of that system, such as a public policy can be readily isolated in a way that its objectives can be understood without reference to the larger network of which it is only one part. In consequence, most programs have a complex hierarchy of objectives (i.e., intended outputs and higher-level outcomes) as is illustrated in the child care example in the box on the next page. There is, in consequence, often much muddiness about what is really trying to be accomplished.

How does the framework help?

110. The Olivia framework can help untangle this complexity by:

• Providing concepts that can consistently describe objectives at different levels of the hierarchy. It is particularly strong in describing high level objectives (equality, tackling poverty, inclusion, participation, access, choice, etc.) in a way that is measurable using the language of the Module One resource flows.
• Helping, at least a little, in attributing outcomes to different programs. A person’s present circumstances are influenced by many multiple-resources flows on many trajectories past and present – including, but most certainly not limited to, the flows arising from the particular government program in question. The framework allows us to keep better track of these multiple flows.

111. As well, the framework proposes consistent concepts to describe different aspects performance:

• **Efficiency** is about outputs. In the child care example, the key question would be whether parents with small children – and only them – actually receive the cheque and at what administrative cost.

• **Results and value for money** refer to those intermediate objectives that are near to outputs. For example, we might be interested in knowing whether the program provided enough money to allow parents to increase their choices with respect to child care options, or whether the same results could have been achieved with less cost.

• Words like *outcomes* and *performance* measurement refer to objectives cast at mid level in the hierarchy of objectives. In this example, evaluations might attempt to measure the extent to which children actually received the child care that was in line with the parents’ expectations.

112. In our example of a child care program, evaluations would rarely attempt to go much higher than the third level of intermediate outcome (i.e., that the child received the care that was in line with parental expectations) because of the difficulty of attributing outcomes to any one program at higher levels.

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**Child care programming as an illustration of overlapping hierarchies of objectives**

We use the example of a program that provides funds to parents with small children. The immediate output of the program is a cheque in the hands of the parent. However, the cheque is not an end in itself. It was provided for a reason:

- A low-level intermediate objective of providing the cheque would be to allow parents to exercise greater choice in making child care arrangements.

- A somewhat higher-order intermediate objective might be that the children actually receive the child care that best meet the parents’ expectations.

- And as we move up the hierarchy of intermediate objectives, we might find:
  - An objective such that the child actually receives quality early learning and care as a consequence of the child care.
  - Or, higher still, that the child gets a good start towards a lifetime marked by learning and full participation in society.
  - Or, higher again, some general statement about improved well-being.

This example is too simple. Often a policy will have multiple objectives. The hierarchy above takes the perspective of the child. In other cases, the program might also be addressed to the parents’ well-being. For example, intermediate objectives might be that the parents achieve their desired balance between working and taking care of their children at home. Or, it could be cast in terms of the best balance between child outcomes and parent outcomes, with parents responsible for identifying that balance.

The higher the level of objective, the more likely it is that there will be many programs in support of that objective. For example, if we were at the level of objective where we were concerned about the quality of child care that was actually delivered, a very wide range of programs would be in place, including among many others:

- Tax support to parents for child care expenses.
- Support to employers for establishing work-based child care.
Provincial funding to community colleges to train child-care workers.

Regulations surrounding the health and safety of home-based child care.

Each of these programs would have a different, but overlapping hierarchy of objectives. The picture is still too simple. The whole system is made of many agents who will not have identical objectives. For example, the agency that contracts to deliver child care will cast its objective at different level than the agency that provides the funding, or the agency that checks the centre’s compliance with the many regulations that affect the operation of the centre.

Because of all this complexity, evaluators often have a tough job when they try to answer the question of whether a program is meeting its objectives. In the language of evaluators, when we look at higher level objectives, there is almost always a hard challenge of attribution – of sorting out the effects of different programs and different social forces on the achievement of ultimate outcomes.

5b) Descriptors of individual purposes and achieved well-being

The framework does not propose any single way of measuring the purposes of people as they relate to social development and human resource policies. Nor does it include elegant measures of an individual’s success in meeting those purposes, such as an index of perceived well-being or happiness. Rather, as throughout, we proceed by setting out many finely-grained measurable concepts that overlap but that are consistent with other modules. These include:

- The volume of resource flows, especially income and consumption, from Module One. Recent research raises considerable doubt about the long-standing tradition of using income as a proxy for well-being. Changes in income are, in particular, not strongly related to changes in perceived well-being. Nevertheless, income remains an important, if partial, indicator of well-being.

- The specific dimensions of well-being associated with specific uses of time as set out in Module One:
  - Whether the extent of participation was sufficient. (For example, the individual worked part-time but would have preferred to work full-time. Or, in a different situation, she would have preferred to have had more time with her children at dinner-time.)
  - Constraints: the activities that individuals would like to participate in – but cannot because of disability, temporary sickness, by lack of facilities (the wanted institutions and networks do not exist), or by lack of geographic access (such as distance to schools and health care in more remote areas, or reduced access because of lack of public transport.)
  - Satisfaction with respect to the substance and delivery of the resource flows to and from social institutions and networks – including government programs.

A discussion of the determinants of individual well-being.

An illustration is provided that shows how the transitions that take place over the course of Olivia’s life link to stress and to her feelings of being time crunched. Attention is paid to transitions that take place within a particular trajectory and to those cross trajectories. It is here where government assistance may be most needed.

A reference to a related ‘Oliver’ story which builds on the discipline of psychology by using the device of individual projects to show how people understand their lives and their relations with others. Both compatible with, and complementary to, the Olivia framework, the Oliver story suggests the possibility of a more symmetrical way of describing institutional and individual purposes.
− Amount of decision-making and control that the individual can exert in the various institutional activities, including at work.

− Measures of trust in the people and institutions with whom the individual interacts.

- The volume of an individual’s assets from Module Two – the extent of financial capital, housing, possessions, human capital and social capital. Perhaps as important would be measures of people’s confidence in their assets, with readings taken periodically. For example, at a point in time, Olivia might:

  − Lack confidence in her human capital and feel a need to retrain.
  − Have confidence in her social capital – that her network of friends will not let her down in a crisis.
  − Worry about her financial capital, including credit card debt.
  − Might be confident in her physical capital particularly her housing assets, since she lives in a neighbourhood where property values are rising.

- Consequences of the life transitions discussed in Module Two, particularly around stress and time crunch.

- Quality indicators relating the spaces and historic times in which the individual was situated – such as neighbourhood crime rates or local unemployment rates, the quality and usage of public facilities, pollution, etc.

- The kind of society that individuals say they would like to see for themselves and for others, as determined through analysis of narrative accounts that use the framework’s standard concepts to describe this better world.

- How well expectations and aspirations are being met, based on general questions about subjective well-being or perceived happiness. If a single proxy for well-being is needed, then a strong case can be made for using the simple measures of perceived well-being that have emerged in the international literature.

5c) Moving to society-level measures of well-being

114. To this point, we have been discussing measures of well-being and purpose at the level of individuals and institutions. As well, the framework can be used to underpin societal level measures, often referred to as social indicators.

115. HRSDC is now testing a set of web-based well-being indicators for Canada that fall mainly out of Module One. The conceptual framework lying behind these indicators is a simplified version of Figure 4 and the indicators chosen are mainly time-series of key point-in-time reading related to, for example, employment, learning and income.

116. Work has started in developing indicators related to Module Two. Key indicators here would, for example, show long time-series of transitions in the workplace, in the family and in learning. While the Module One indicators look quite familiar, the Module Two indicators are
quite new. They are being created by using LifePath microsimulation modelling, a tool that well
reflects the kind of finely-grained, integrated analysis outlined in the first chapter of this paper.

117. For example, in the workplace trajectory, HRSDC is building long-time series showing
the age at which different cohorts of men and women started their first jobs, the number
employment transitions that took place throughout their lives, and the duration of states (such as
holding a particular job or a period of no employment). They are developing similarly long time
series of transitions in family relationships in the lives of people of different generations. The
early work holds, we believe, much promise for a new and insightful way of understanding the
economy and society.
### Annex – Practical Examples of Uses of the Framework

#### Example 1. Broadening the scope of policy agendas

**Issue**
A number of newer approaches to social policy are hard to situate in today’s policy agendas. They tend to be dealt with as one-off proposals and, in consequence, may sometimes be over-valued and sometimes under-valued compared with more traditional alternatives. Examples are place-based policies and a complex of policies that focus on assets, evidence-driven social investment, and life-course risks and opportunities.

**Potential role of the framework**
The framework is descriptive and, by itself, does not favour any particular type of policy response. However, because it allows analysis of a broader range of policy challenges, it is likely to result in a greater variety of policies being more actively considered around policy tables.

**When pay-offs might be realized**
- **In the short-term**, we are not likely to see big effects on policy agendas. It typically takes a long time before new forms of analysis or new research findings to shape policy-decision-making in a major way. And a conceptual framework to support that analysis is even further in the background.
- **In the medium-term**, the concepts and measures of the framework are likely to result in policy agendas that put more weight on targeted, incremental policy changes, on evidence-driven social investment policies as further explained in Example 3, on policies that promote life-course choice and flexibility, and on knowledge products as end programs in their own right as set out in Example 7.

#### Example 2. Efficient communications in and across social policy organisations

**Issue**
Earlier in this chapter, we described the many divides that create misunderstandings and inefficient communications.

**Potential role of the framework**
We have already discussed how the framework can bridge those divides through its emphasis on finely-grained, integrated descriptions.

**When pay-offs might be realized**
- **In the short-term**: The real payoffs will come gradually as the concepts are increasingly used in day-to-day operations.

HRSDC is taking a first step by developing a lexicon, based on the concepts of the framework, for use on its web sites.

- **In the medium-term**: In several years time, we are likely to see important improvements in the form of greater coherence and greater efficiencies in knowledge activities such as research, survey planning, model development, evaluation and public consultation.
Example 3. Making service interventions evidence-driven

**Issue**

Service interventions, such as active employment measures, tend to get poor results. This results from an inability to directly feed the lessons from past experience back into current programming decisions. Manifestations include lack of knowledge of what actually happens inside the various interventions, designs that are based on average people not real people, and a management culture that has not yet understood the power that modelling – and other current tools – can bring to the day-to-day operation of these programs.

**Potential role of the framework**

The framework’s finely-grained concepts and measures are well suited to the solutions that will allow current programming to be automatically driven by lessons from past successes and failures. Indeed, the framework was influenced by pilot work along these lines that took place in Canada in the 1990’s.

**When pay-offs might be realized**

- **In the short-term**, investments will be needed to develop the knowledge structures and tools to support evidence-driven designs. Evidence from earlier pilots suggests that, with modest initial investments, significant improvements in the effectiveness of active programming would be possible in about three or four year’s time.
- **In the medium-term**, once we have reached the stage where we can routinely incorporate knowledge about the subsequent experience of current participants, we will have created a ‘learning program’ where the possibility of quite dramatic improvement in effectiveness of service interventions is likely. Progress will be slower – and development costs highest – in areas such as health care where developing the needed computerized records will be a massive task. It will be fastest in areas such as training or welfare-to-work programs where administrative records already provide quite good data on subsequent outcomes.

Example 4. Fostering openness and accountability

**Issue**

Evaluations often come too late in the policy process and, as noted in the text, often answer the wrong question. It is difficult to attribute outcomes to particular policies. Performance measures and social indicators are often hard to understand, being based on abstractions and averages, not around real people.

**Potential role of the framework**

The finely-grained concepts of the framework were designed to reduce these problems. They will result in a virtual merger of evaluation, performance measurement and operating data – with all being publicly available in real time and in understandable formats. Finely-grained qualitative and quantitative tools make it somewhat easier to address issues of attribution.

**When pay-offs might be realized**

- **In the short-term**, gains may be modest. Most of the pay-offs fall out further development in areas such as the effective service interventions discussed in Example 3 or the knowledge products discussed in Example 5.
- **In the medium-term**: The framework enables use of contemporary information technology in our programming. That alone will enable a dramatic strengthening of our approaches to performance measures, evaluations, and the provision of wide access to much more detailed public information. The timing is not clear, but the general direction is. Radical improvements in openness and accountability are on medium-term horizon.
### Example 5. Bringing citizens to the centre of the policy process

**Issue**
We need strong qualitative tools in order to carry out what many to believe to be a central policy function – understanding and acting on the needs, wishes and expectations of citizens. The text explained that these (important) tools were underdeveloped because they could not be easily used in conjunction with (urgent) quantitative tools.

**Potential role of the framework**
By using the same measurable concepts to support qualitative and quantitative analysis, the framework therefore addresses the central issue.

We can use biography as powerful tools of program and policy development, as well as in consultation with citizens and stakeholders. In these consultations, we can ask, in effect, whether policy-makers would get it right if they made their decisions on the basis of how those decisions would affect the subjects of the persons covered by the biographies. If not, then what is missing and how can that be fixed?

**When pay-offs might be realized**
- **In the short-term,** pay-offs are likely to come from smaller case-studies and focus groups. It will take much time and consultation to build up the detailed biographies that are called for in the Olivia framework. However, the process used to develop and modifying individual biographies can, in its own right, be a rich tool of policy engagement – and one that could have surprisingly positive benefits, even in the short-term.
- **In the medium-term,** we envisage perhaps a dozen detailed biographies, with shorter supporting narratives of the lives that are closely linked with subjects of the biographies. These biographies would cover all the descriptors listed in the Four Modules, including a detailed history of receipt of program benefits. That is, the biographies would be a qualitative parallel to the micro-simulation models that captured the same information, but in the form of data that relate to the entire population. We anticipate high policy returns from analysis that draws on both kinds of knowledge. However, this is largely unexplored territory and the next several years would need to be mainly devoted to development and exploration.

### Example 6: Increasing the policy power of statistics, research and experimentation

**Issue**
Most of today’s knowledge planning is handled on a case-by-case, instrument-by-instrument basis. For example, we identify the particular information that is needed to support a policy application and we select the vehicle that is most likely to provide that information at least cost – whether that vehicle be new statistical surveys, exploiting administrative data, funding new research funding or demonstration and experimental projects

Such application-by-application, vehicle-by-vehicle strategies make little sense when one looks across a wider spectrum of human resources and social development policies and at wide range of potential instruments. Particular instruments can serve multiple uses and most applications are best served from knowledge derived from multiple sources. The tools to undertake this form of system-wide knowledge management are, unfortunately, currently underdeveloped.

**Potential role of the framework**
The framework was very much designed to support system-wide knowledge planning and management. Virtually everything of potential interest to policy is included in the framework’s finely-grained pictures of individuals and society. All the concepts used are potentially measurable, but of course only some concepts are actually measured and included in our microsimulation models. The first step in knowledge planning is to identify those gaps in the models that, if filled, would have highest payoff for policy.

**When pay-offs might be realized**
- **In the short-run,** the framework can support comprehensive knowledge planning exercises. This has already begun in HRSDC. Our experience to date suggests that an early result may be a rationalization of the structure of surveys, including longitudinal surveys, so that they produce the best mix of data when taken in combination, as opposed to when taken one at a time.
- **In the medium-term,** we anticipate that the new approach to knowledge management will lead to much richer and more efficient knowledge bases on which to construct policy analysis. Each piece of data that is collected will be used in far more applications. And the cost of acquiring each data element may fall as a result of greater use of less costly administrative records, low-cost experiments and demonstrations.
### Example 7. Strengthening government’s knowledge products

<table>
<thead>
<tr>
<th>Issue</th>
<th>Solution</th>
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<tbody>
<tr>
<td>Information products are potentially powerful business lines for governments. By providing information to individuals and organisations on the opportunities available to them – and on what works and what does not – we can increase individual choice at relatively low public cost. Efficiency will increase as well-informed individuals and organizations make better choices. The need for costly remedial interventions will decline. Yet there is significant under-investment in knowledge products. We have yet to exploit the huge power of new information technology to get finely-grained information into the hands of citizens. Nor have we yet found effective ways of evaluating the effectiveness of knowledge products.</td>
<td>• Information on the current demand and supply of jobs in which the individual is interested. • The success that people have had in the past in getting those jobs as a result of simple job-search, or of training or more comprehensive case-managed interventions, or of moving to areas where the jobs exist. • Cross-links to job-matching sites or to sites listing learning opportunities. • The difference that gaining the job made to people in the past, in terms of continuing employment and earnings. • Alternative learning and job-search strategies that may be relevant to the individual.</td>
</tr>
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</table>

**Potential role of the framework**

Take the example of labour market and learning information addressed to individuals. In Example 3, we showed how service interventions such active labour market programming could be radically improved by referring clients to interventions based on real-time calculations of what has worked best for similar people in similar past circumstances. That same information can be made available to the public at large directly over the internet. People can enter information about their own characteristics and labour market aspirations. The following kinds of information can be fed back to the individual in real time:

- Information on the current demand and supply of jobs in which the individual is interested.
- The success that people have had in the past in getting those jobs as a result of simple job-search, or of training or more comprehensive case-managed interventions, or of moving to areas where the jobs exist.
- Cross-links to job-matching sites or to sites listing learning opportunities.
- The difference that gaining the job made to people in the past, in terms of continuing employment and earnings.
- Alternative learning and job-search strategies that may be relevant to the individual.

The Olivia framework can also help in evaluating the effectiveness of those knowledge products. In the example above, the calculations on what would work best for the individual client can also be used to estimate the costs and benefits of providing that information. Even in less sophisticated applications such as advertising and promotion, the framework can help clarify outputs and outcomes – and can help, at least a little, in doing a better job in attributing outcomes to the particular interventions.

**When pay-offs might be realized**

- **In the short-term:** A great deal of the needed information in the area of labour markets and learning is already available. One strategy would be to begin now developing interactive web-based strategies targeted at particular individuals and institutions.

These would be based on available information and would evolve over time towards the fully developed system described above.

- **In the medium-term:** Canada and other countries are making huge, longer-term investments in collecting ‘what works’ information related to health care – and are developing analytic tools that can be exported to other social domains. Social and human resources applications can make quite quick use of these new tools since administrative records and surveys are good here when compared with health records. A mature system of labour market and learning information that is based on evidence of subsequent outcomes would likely require four or five years of development.
Example 8. Reducing ambiguity in discussions of higher order objectives

**Issue**

At least in Canada, discussions of higher order policy objectives and principles – such as social cohesion, social inclusion and exclusion, rights, poverty, risk, inequality, or participation – tend to get bogged down by confusion over definitions. It is particularly difficult to have a clear discussion that involves comparisons across big social policy objectives because each objective tends to be associated with its own, unique set of concepts and measures.

- The goal of redistributing resources from one group to another (as in the tax system or social assistance) comes with a rich set of words and numbers that centre on the concepts of equality and exclusion.
- The goal of redistributing resources over the course of individual lives (as in many dimensions of pensions,) comes with a set of concepts and measures centring on insurance and risk – and more recently on life-course transitions and trajectories.
- The goal of social investment (education, training, active measures) is supported by concepts and measures related to returns to investment, human capital and other assets.
- The human rights goals of social policy are discussed using concepts and measures that have their roots in law and international declarations.

Discourse that crosses these areas is difficult because of lack of cross-walks among the concepts being used in these four kinds of discourse, and the lack of common measures.

**Potential role of the framework**

The finely-grained concepts of the framework allow precision and measurement. They show how the various objectives and principles are inter-related and how multiple meanings associated with many objectives and principles can be deconstructed into their measurable components. Take social inclusion and exclusion as an example. What are people excluded from – resource flows at a point in time, and if so only income flows? Or are people excluded from assets, and if so financial assets only, or from social capital or access to the means to develop human capital? Or, are we referring to exclusion from certain institutions?

**When pay-offs might be realized**

- **In the short-term**: The associated technical paper contains examples of how higher order concepts can be cast directly in terms of the concepts of the framework’s four modules. These are, however, still more suited to technical analysis than public dialogue.
- **In the medium-term**: The framework allows us to deconstruct current terminology about goals and principles into clusters of related, but different concepts. Further development is needed, however, to provide catchy words and phrases that can be attached to these more finely-grained concepts. Also, the framework needs to be further developed in the area of human rights concepts. The main policy payoffs are likely to be in terms of the increased openness and accountability that will follow from greater clarity on the meaning of higher level program objectives and how these have been met.