AUTHOR: **Slason, Jonathan (PE)**

Presenter: **Jonathan Slason**

Title: **Unintended Consequences of Reduced Consumption**

Beca

132 Vincent Street, PO Box 6345
Auckland 1141, New Zealand

Telephone (office): 09-300-9063

Mobile: 021-191-0800

Email (office): jonathan.slason@beca.com (personal): jslason@gmail.com

ABSTRACT

This paper explores potential changes to the way government and citizens may be required to shift expectations of government responsibility if sizeable portions of society shift to methods of daily consumption and behaviour not captured by traditional Gross Domestic Production (GDP) calculations. The GDP measure depends on consumption, government spending, investment, imports versus exports – all reliant on transparent and traceable monetary system.

As increasing numbers of municipalities investigate ways to use local currencies, and/or support initiatives such as time-banks and barter based exchanges, this paper explores the impact that reduced cash flow could have on revenue tax collections and the associated monies used for government expenditures. These locally based means of trade and transactions can provide benefits captured by other indicators of education, progress and happiness, however they do reduce the amount of trade captured by traditional monetary measures.

As members of society look to become additionally self sufficient it might be possible to reduce wages and reduce consumption, therefore reducing the tax collection and revenues based on consumption. It is clear that efforts to reduce the daily reliance on a cash based society, previously captured in traditional GDP calculations, may have impacts much further than most involved in these efforts realise.

Governments large and small rely on GDP calculations for revenue comparisons, bonding capacity, and general government expenditure obligations. Reductions in monies collected by members of society could significantly impact the ability of government to provide the services many members of society consider necessary.

INTRODUCTION

The Great Recession of the late 2000's has resulted in unemployment spikes around the globe. As unemployment rises, so does the potential for political outcries, protests, and anger from the public. This has already played out in Greece as austerity measures for bringing the Greek budget and balance of trade more in-line with the financial capacity of the country has resulted in strikes, protests, and riots.

The ability of government to offer a safe and stable economic and political climate is the foundation on which countries facilitate growth and development. The correlation between perceived financial and economic growth and the general public level of satisfaction has been well documented and researched (Friedman). The anticipation that tomorrow can be better than today can empower generations to labour, day after day.

Perception is perhaps more important than physical reality. Given that the average per capita wage in the US has remained relatively steady since the 1970's in real dollars, while income and consumption inequality and GDP growth has increased (State of Working America) the actual economic condition for the average household in the United States is no better off than a few decades ago. The Great Recession of today is tugging at the edges of doubt and awareness that perhaps some of this 'growth' we have seen may be as real as we have thought. People have started to re-think the basics of consumption and the economics it has been based on.

However, what happens when the perception is that growth is slowing? Or that tomorrow will most likely not be better than today? This paper explores some of the facets of sustainable living that will have ramifications beyond our own life, and will affect local communities, regional and potentially national economies.

New patterns of consumption that support self sufficiency and reduced consumption in addition to the promotion of localised consumption through the use of farmer's markets, local currencies, time banks, and barter agreements may result in local, regional, and national changes to our government funding and methods of fiscal operation. Unintended consequences of reduced tax collections and government revenues may result in financial difficulties meeting the traditional fiscal objectives and service requirements that we have come to expect from our government bodies. The public and government bodies should begin planning for scenarios with alternative delivery methods of services, local procurement procedures, and expectations of reduced revenue.

BACKGOUND

Since the middle of the Second World War, a change occurred in national strategy to find ways to invest our money and labour (capital) in ways to produce employment and consumption. In the westernised countries, consumption has become the largest component of the Gross Domestic Product. In New Zealand individual consumption made up 70.%, Australia at 65%, USA at 77%, with the Organization for Economic Co-Operation and Development (OECD) average at 73% of the overall GDP in 2008. In developing countries, India leads Asia with 57% of GDP being comprised of individual consumption. The overall power that consumption has on our society is extraordinary and has become ingrained in our social fabric.

The marginal cost of production combined with improvements in the global production and transportation logistics chain has lowered the cost of consumption for billions around the world. For many of the developing countries and for those with less cash flow, this has allowed a significant gain in utility and economic happiness. As a society the access to cheaper consumables has generally not increased our savings and investment rate but rather enhanced potential for consuming additional goods. The desire for more consumption and additional 'owning' has become an integral and substantial component of our culture and our economy.

The propensity to consume has been maintained even as real wages stagnated relative to growth in aggregate indicators of GDP. Consumption has been sustained largely due to the availability of relativity cheap labour, reduced savings rates, and overall increased borrowing, realised in the national debt.

The purpose of consumption is to gain a certain level of happiness or utility. However, upon reaching a particular point of economic and physical consumption (i.e. GDP per capita, or gross income), the marginal return of utility decreases. That is to say, that for each additional dollar spent in physical, economic consumption, a smaller portion of happiness or satisfaction is obtained (Layard et al). It should be noted that this particular paper has been oriented towards OECD countries, as some other research has indicated that the GDP effect can be quite pronounced when comparing low GDP countries with high GDP countries (Layard 1980, p. 737).

The end user cost of production, which many firms in the global market place are exploiting, includes hidden or external costs to the production and consumption of these goods. These include

- Society Costs: human exploitation, trafficking, family separation;

- Environmental Costs: local, regional, and international pollution, lack of production environmental compliance; reinforced negative spiral of other inputs to the primary good production to minimize costs and environmental compliance.

- Trade Balance: Many of the goods are made outside of the country of consumption. The imports are exceeding the exports. Trade imbalances must be borrowed. These loans (bonds) are bought by local and/or international people and countries.

- Transportation and Global Supply Chain: increased net consumption of goods and materials devoted to move other goods and materials around. Emissions, water damage, and soil damage associated with global supply chains.

CHANGING CONSUMPTION

A movement has been building in the western developed world "the north" which seeks a movement away from a conventional cash oriented consumption lifestyle. The shifted would orient consumption toward locally produced goods either by the individual themselves (self-sufficiency) or by trying to buy and sell locally within a particular region.

An underlying premise of many of the sustainability movements (New American Dream, Transition Towns, etc.) is that the current rate and extent of consumption has lead to the environmental and societal corrosion of today. By changing the type of consumption to consider other elements in the utility function aside simply cost, additional benefits may accrue to the environment and local economy. These can include value to local residents, environmental impact, and other ways to internalise some of the former externalities of consumption.

In a perfectly rational economic human, the consumer maximises ones utility. In the traditional framework that has included maximising the pleasure obtained by economic consumption, commonly captured by the aggregate GDP. Over the last 100 or so years, this has truly shifted to represent the consumption of material goods. More recent review of the

GDP measure has suggested that there may be other indicators that would better at understanding the *utility* of consumption – in terms of a broader environmental and societal scope. This awareness reached a pinnacle in 2008 when the French Republic President, Nicholas Sarkozy asked that a formal review be undertaken to "identify the limits of GDP as an indicator of economic performance and social progress." The request evolved in the formation of "The Commission on the Measurement of Economic Performance and Social Progress (CMEPSP)" which produced a report, known as the "Stiglitz, Sen, Fitoussi Report", in late 2009 on their findings.

Changes in consumption lead to reduced overall consumption or substitution effect to consider consuming items with less environmental harm and impact. Many often quote or assume that with increased consumer affluence, people tend to substitute more environmentally benign options for dirtier items. This is what the Kuznets curve alludes to – that with additional wealth and affluence the net environmental impact could be reduced by more productive means and better pollution controls. However, it has been shown that other indicators have not reduced with increases to per capita income or to the degree necessary; namely carbon consumption (Stern 2003, Stern 2010). In general, a net increase in GDP per capita leads to a net gain in carbon intensity produced suggests that the only environmentally acceptable consumption is modest consumption.

APPRECIATE THE LOCAL

A response to these grievances has been building and now reaching mainstream proportions, "Buy Local". The movement initially targeted the consumption of goods within ones own domestic borders and concentrated on domestic labour protection (buy locally, produce locally, hire locally). The context is widening and now the "Buy Local" process is being used on the international world trade context to consider whether labour standards, financial practices, and environmental standards are being followed or else tariffs will be imposed. While the definition of "Buy Local" can be broad – it is taken here as a society aim to produce and consume locally within a region of shared tax or government obligations.

The Buy Local initiatives have evolved and become more encompassing efforts of sustainability. The appreciation of community and social capital and the many negative external effects our consumption has had on our environment has lead to an increase in local consumption initiatives, from Local Currencies to focused government sponsored economic development programmes on supporting local ways to increase the velocity of money within a particular geographic area (Mauldin). By facilitating the flow of money within a community, there is perception of activity, growth, and increased consumption utility.

The changes have since encouraged the general public to reconsider expenditures in general and to enhance self-sufficiency as well as general local resiliency. A clear emphasis is to reduce extraneous expenditures and better understand a life cycle, full cost of the consumption. Full costs typically attempt to consider the environmental issues of transportation and production, carbon costs, and labour issues of production, and the waste associated with consumption. Often local production or self sufficient production can provide a better accountability of these issues.

Income is to be spent at Farmer's Markets, market days, fairs, flea markets, etc. which may be more susceptible to keeping the money transactions "under the table" and free from any applicable duties or taxes. Exchange will be cash oriented as well as increasingly based on time and barter type exchanges. Although the potential and propensity would be to obtain cash (or time), and spend cash (or time) without fully accounting it, most legal systems indicate that barter and cash exchanges are still subject to taxes, as mentioned in the 'fair use value' for the good exchanged (Soloman). A net effect of changing consumption patterns based on local cash, markets, or time exchanges is that it may reduce consumption in the terms of cash flows, or at least formalised, traceable cash expenditures.

After reduced consumption becomes a standard household practice it may be possible for a family, household or individual to change their level of income or gain increased flexibility in the income they receive. Diversifying the income sources could generate cash or barter based trade. By reducing the net requirements for cash based outlays to provide for a particular level of consumption, the net income requirements may be able to be reduced accordingly.

There are two simple direct macroeconomic outcomes from changing the consumption pattern as described:

- Less consumption can lead to more savings or investment
- Less consumption and income will reduce government tax revenues

Less overall consumption should lead to more savings or investment

Assuming revenue is equal before and after the shifts in consumption. This could provide significant benefits in a number of different areas:

- Increased personal savings and investment;
- Increase GDP;
- Increase in FDI; and
- Time shift from consuming to saving.

A) Increased personal savings and investment can provide long-term economic stability and personal resilience. Increased opportunity to leverage future investment options;

B) A macro-economic increase in the investment and savings can increase the positive side of the GDP calculation, the reduced consumption reduces the positive side, and the reduced consumption of imports minimises the balance of trade component. An indirect effect of the additional national savings is that the country can actually borrow (negative balances of trade) more as a percentage of GDP, especially when there are savings in reserves;

C) Economies with high savings rates and investment can then provide foreign direct investment and other direct investment in other ventures. The investment can be used in the international marketplace to find the best return on the accumulated capital;

D) The time saved by not "consuming" goods can be spent doing other activities. Personal investment in skills (learn to cook, a new language, guitar, etc.), or time spent with family.

The investment of time into human and social capital is the focus of many of the returns to changes in reduced consumption patterns.

Economic security is only one factor in a host of them which contributes to a ‘successful’ social economy and social welfare state. Personal satisfaction of enhanced value can vastly improve ones well being and state of happiness or utility.

Recent work in the field of economic social theory indicates that individuals can continue to show gains in utility, but not by earning more, but by gaining more personal skills, creating value for others, spending time volunteering and donating time, - using Time as the measure for additional utility. Time being put to particular uses and seeing rewards justifies the investment of that effort.

The value of this type of personal change has not yet been accounted in traditional economics. Aggregate economic indicators have not evolved to take into account the other numerous measures of utility. For example, currently it is estimated that household work alone could represent 30% of conventional GDP estimates (Stigitz).

Less consumption and income will reduce government tax revenues

As individuals and families reduce incomes by working fewer hours, changing jobs, switching careers, etc. to shift to consume locally and domestically, and to reduce the overall net sales of external goods, certain revenue streams will be affected. The movement away from cash based expenditures and measures of utility will have effects on a national, regional, and local government.

This could provide significant problems in a number of different areas:

- Central Government Reduced Income Tax Collection;
- States and Regional Reduced Income Tax Collection; and
- Changes in reliability of other income sensitive taxes such as General Sales Taxes, income adjusted property taxes, and other consumption taxes.

A) Central Government Reduced Income Tax Collection: Decreases in taxable income affects central governments balance sheets. Reduced income has obvious implications for the central government which must forecast and rely on a certain income with which to fund government expenditures. It is very likely that with a conscious reduction in income and associated taxes there will be further inequality between the tax payers.

Income tax is generated by the richest brackets in a society, a vastly skewed distribution. In the United States, the top 0.01% of wage earners generate 12% of the income tax collected (Prante). The change in overall consumption, most likely by the middle class will further divide the rich versus the poor. The GINI coefficient indicator could become increasingly skewed for many of the economies (CIA World Factbook). There are social and political issues associated with inequality that must be viewed in this context.

National central governments need to look at the income distribution of those who pay tax and evaluate what would happen if particular swaths reduce their taxable income.

Primarily, consumption represents a larger proportion of ones income the lower you move down the income levels. However, the absolute magnitude of consumption isn't that great.

Changes in central government tax revenue will impact GDP. Although the GDP may not accurately capture many elements of sustainable community and human development, it remains the financial indicator that provides confidence to the international markets that allows bonding and many financial activities to be carried out.

B) States and Regional Reduced Income Tax Collection: States and regions that collect income taxes will be affected by reduced revenues but operate in a completely different scale which limits flexibility and number of available options to adjust financially. Many states in the USA legally require that budgets are balanced annually and cannot run a deficit. Any annual or long-term decrease in revenues collected will have to be met with changes in government expenditures.

C) Changes in reliability of other income sensitive taxes such as General Sales Taxes, income adjusted property taxes, and other consumption taxes. Regions that collect a general sales tax or other taxes on consumption (i.e. food, hotels, vehicle taxes, etc.) will be directly affected by a change in consumption to self-sufficiency. The complications of tracking cash flows between barter and time based exchanges will continue to cause problems for sales tax authorities. Many of the world's developing countries operate solely in a cash and barter arrangement and have very limited opportunities to institute and collect a sales tax.

Changes in consumption patterns could also begin to affect the property market, although the likely effects are little known, the impact could be substantial on small municipalities. The patterns most likely would follow one of two potential routes: larger plots of land increase in popularity for self-sufficiency (i.e. 1970's back to the land movement) or demand for less expensive and shared housing increases (increases in community and social capital).

In addition to likely housing stock demand changes, when communities alter property tax rates based on the homeowner income, it could lower the potential rate charged for residents whose incomes then reduce. Property tax remains the most stable and reliable tool for municipal revenue worldwide. Burlington, Vermont, USA is an example of any small city with 80% of its general fund revenue sourced from the property tax.

In New Zealand total revenue tax as a percentage of GDP represents approximately 36% (OECD). While this includes total tax revenue, it is evident that any change in tax collections could have implications for changes in overall GDP.

CHANGES IN GOVERNMENT EXPECTATIONS

As participants in a government system, all residents must appreciate that the goods and services that the government provides come at a cost. The individual income and sales tax revenues that are sent to the local, regional, and central government contribute in a meaningful and significant way to the funding of government obligations.

Focusing on the role and responsibilities of states, districts, and local municipalities, it is possible to evaluate what type of effect some reduced revenues would have on operations. Substantial previous investments in plant capital (buildings, machines, etc.) are being depreciated in anticipation of future re-capitalisation. Investments in water, sewer, transportation, and electricity all are assets that require constant upkeep and maintenance. Services such as emergency management, medicine, and schooling would all remain. When a government realises reduced revenue, decisions need to be made on changes in infrastructure. In the United States, recent examples include Detroit, Michigan and Youngstown, Ohio (Washington Times). In addition, nearly half of the US states cannot maintain their existing critical infrastructure (Pew Center on the States).

If changes to our individual consumption pattern reduce the quantity of funds used within the government that one is based within, it would only be fair to expect that a potential reduction in service would be appropriate. If there is a decision to change the amount of money sent to our governments, we must be conscious to reduce the cost and expenditure of our government system. This may include accepting different levels of school funding, lower quality of transport, no fire protection, etc. The selection and type of reductions become a difficult political choice and one which will require communities to come together and take up the challenge.

A challenge to communities with reducing incomes or with revenues in local monies (local currencies), is that many of the government expenditures will remain in the national currency. Local governments rely on many goods and services bought from outside the community. Thus, even as a community may internalise more production and consumption, if the community doesn’t bring in net revenues to the government there are few funds to go external of the community with. Medical care, medicines, and other specialised services are particular examples that are very rare to have within ones own geographic area and must be obtained from other areas.

The risks for local, regional, and central governments fall within a continuum and all vary depending on the extent in which residents embrace reduced consumption and alternative trading. Local governments will be the most affected, as most often a nucleus of activity occurs within the community and town/municipality level. Local governments are smaller and therefore less likely to be diverse in terms of income profiles, property valuations, and environmentally and economic diversity. Changes in revenue projections (future projected taxes of all kinds) and economic profiles will inherently alter debt ratings, bonding capacities, and alter the traditional financial positions of many jurisdictions.

MOVING FORWARD

A vision for sustainability has been building to support consumption on a local and ecologically feasible scale. The shift from unsustainable practices to sustainable ones will generate extreme volatility worldwide for all types of governments, large and small. Appreciating that sustainability is about remaining in-line with the carrying capacity of the earth – it is much easier to understand that capacity on a local scale. The economics of local communities will continue to increase in strength and local resilience. It is critical then to understand what that may do to individuals within that government and how the aggregated effects may impact on the ability for governments to provide services.

Governments need to review their risk for changes in revenue and how changes in inflows can affect their ability to deliver services and pay for external liabilities. Some expenditures, such as paying local vendors with property tax credits or local utility credits, can be made internal to the town using other means than standard cash / monetary transfer. However the majority of expenditures have to be made only using the national currency and are external to the government boundary.

Successful sustainability planning will require the use of scenario planning risk analysis to evaluate how a government can respond under different revenue and expenditure scenarios. This process can work to account for changes in revenues associated with consumption patterns discussed in this paper, but also additional changes associated with moves toward greater sustainability.

The public community will again become the cornerstone of local governments. As it becomes clear that governments will also become fiscally constrained other ways of delivering services will have to emerge. There will be opportunities for new government structures, new public-private partnerships, and more opportunity for civic engagement. An example of an innovative community led initiatives to provide services once carried out by governments is seen in Tulsa, Oklahoma where the graffiti unit was eliminated in budget cuts and local residents have taken up the challenge to maintain the programme (City of Tulsa). These efforts can not only deliver necessary services, but it can strengthen and build community and social capital.

CONCLUSIONS

The move toward sustainability will most likely reduce the net consumption and potentially net income for a segment of the population. Those who will select alternative means of income and consumption could have an effect on local, regional, and central government revenues and therefore an effect on government expenditures.

This paper explores potential changes that can occur with changing finances for those who embrace a move towards greater sustainability. This paper was provided as insight into the types of risks that governments may face and actions that can be taken now to move the government from a reactive position to a proactive position. Austerity measures being instituted in Greece, Spain, Venezuela, Puerto Rico, even the United States and England, are being met with surprise, dissatisfaction, and anger. While not nearly the complete picture – the measures are trying to rectify government imbalances between revenues and expenditures.

Steps can be taken now to discuss the role of government in our communities and how as residents we can support our institutions and maintain their resilience as much as our own.

REFERENCES

City of Tulsa, Oklahoma Website. Accessed on 3 July 2010.
http://www.cityoftulsa.org/enews/2010/april/4-20-10/volunteer.aspx

CIA World Factbook on GINI Accessed on 3 July 2010:
https://www.cia.gov/library/publications/the-world-factbook/fields/2172.html

Detroit Looks at Downsizing to Save City. (9 March 2010), *The Washington Times*.

Friedman, Benjamin. (2005). Moral Consequences of Economic Growth.

Layard et al (2008) Marginal Utility of Income. *Journal of Public Economics, 92 (2008) 1846 – 1857*

Layard, R., (1980). 'Human satisfactions and public policy', *Economic Journal*.

Mauldin, J. The Velocity of Money (online). Accessed on 2 July 2010
http://paul.kedrosky.com/archives/2010/03/mauldin_the_vel.html

OECD. Stat Extracts (online) Accessed on 4 July 2010 at 1:39 UTC.
http://stats.oecd.org/Index.aspx?DatasetCode=SNA_TABLE1

OECD. Tax Revenues as a percentage of GDP
http://www.oecd.org/dataoecd/48/27/41498733.pdf

Pew Center on the States. Grading the States 2008.
http://www.pewcenteronthestates.org/uploadedFiles/Grading-the-States-2008.pdf
http://www.pewcenteronthestates.org/ttw/trends_map_data_table.aspx?trendID=11

Prante, G. (30 July 2009) Summary of Latest Federal Individual Income Tax Data. *Tax Foundation*.

Soloman, Lewis D. (1996) Rethinking Our Centralized Monetary System: The Case for Local Currencies. Chapter 7.

The State of Working America. *Economic Policy Institute*. 2008/2009.

Stern, D. (2003). The Environmental Kuznets Curve. Internet Encyclopaedia of Ecological Economics. *Rensselaer Polytechnic Institute, Troy, NY, USA June 2003.*

Stern, D. (April 2010). Between Estimates of the Environmental Kuznets Curve*, *University of Australia. Working Papers*.

Stiglitz, J., Sen A., Fitoussi, JP. (2009) Report by the Commission on the Measurement of Economic Performance and Social Progress.