The Theory for Inflation

In Times of Crisis...

[Work in Progress]

THE PROGRESSIVE GOODS AND SERVICES TAX (GST) / VALUE ADDED TAX (VAT) (FISCAL POLICY) AS A TOOL OF INFLATION TARGETING

Is a Higher Inflation Target Plausible?

by Overcoming Most of the Costs of Inflation?

…but, in also, acting as a Buffer Against Deflation…and Disinflation…?

The Cure for *the Global Financial Crisis…*

by Julio Altamirano (Jnr)

Premised upon taxable income…and thus, the ability to pay principle…

In Reply…

[*Topic for Doctor of Philosophy PhD*]

At the time of writing, of the 145 countries throughout the World, none of these countries have a 'progressive' goods and services tax or value added tax…and none of these countries have adapted such a tax and accounting system as a tool of inflation targeting…Julio Altamirano (Jnr)

A 'Haggerian' Perspective [ceteris paribus]

Key Hypotheses: (a) and (b)

(a) *By premising the regressive Goods and Services Tax (GST) or Value Added Tax (VAT) on the ability to pay principle of taxable income the regressive GST / VAT would become progressive in nature?*

…………………………………………………………

(b) *Can a Progressive Goods and Services Tax (Premised Upon Ability to Pay) act as a tool of inflation targeting and allow a higher inflation target, without many of the costs of inflation? And, thus a tool that can combat the Global Financial Crisis...*

The Threat of Deflationary Crises:

Combating the Global Financial Crisis

In the Wake of, the Global Financial Crisis

Lessons For The International Experience

An Alternative to (Monetary Policy) Inflation Targeting

The Failure, but also, Prospect and Future, of Inflation Targeting…?

A 'Keynesian' Tool

of

Inflation Targeting

The Keynesian Counter-Revolution

to the Monetarist Counter-Revolution

Keynesians versus Monetarists

…the effectiveness of fiscal policy vs monetary policy…(Blanchard & Sheen, 2009)

The Keynesian Analogy

At a Time of the Great Recession

WHAT IS A DEPRESSION?

A DEPRESSION is a condition in which business becomes unprofitable. It might well be called The Private Profits disease. Its worst consequences are business failures and wide-spread unemployment. But almost no one escapes a degree of impoverishment. Some of the mightiest and best managed enterprises, such as railroads, are .among the worst sufferers. If they do not break, it is often only because
they are saved by their reserves. Many rich stockholders, too, are compelled to live on reserves while many persons who had lived modestly are compelled to live
from hand to mouth and many who already lived from hand to mouth become jobless and live on charity, or die, or become thieves. In a word, a depression is a form of almost universal poverty, relative or absolute. And though this poverty is transient for society as a whole, it is, for countless individuals, tragically permanent. Irving Fisher in Booms and Depressions

Combating the Recessionary and Inflationary Gaps

A Unilateral, (Floating Exchange Rate) Perspective

'The Role of Fiscal Policy, in Inflation Targeting'

A Challenge to Conventional Monetary Policy Inflation Targeting

"I would emphasize the important corollary, of the debt-deflation theory, that great depressions are curable and preventable through reflation and stabilization. Irving Fisher, US economist

The difficulty lies not so much in developing new ideas as in escaping from old ones. John Maynard Keynes

Hypotheses:-

In raising the inflation target, this fiscal policy instrument as a tool of inflation targeting is fundamental to tax and macroeconomics in overcoming most of the costs of inflation...with income being spent or saved or dissaved...it provides a solution to the purchasing power of income index and that of the Fisher equation...

...complements monetary policy inflation targeting with no lags, can combat the recessionary and inflationary gaps, including depressions, provides a buffer against deflation...allows for activist monetary and fiscal policy......with the maintenance of purchasing power...

...in terms of floating exchange rates...depreciating the unit of account...making domestic goods cheaper than foreign goods and thus also stimulating exports...

...but also, ensuring the progressivity of indirect taxes...a simple, flexible, progressive and fair but also economically efficient and neutral tax, suitable for overcoming many of the major taxation policy and macroeconomic problems...without, the distortion of relative prices in the consumption of goods and services...major macroeconomic benefits thereof...and without, it is proposed...a major overhaul of the indirect tax system...

Part I of II

I Abstract

Part I addresses whether a valid analogy can be drawn between 'Business Activity Statements' as evident in the *Australian Goods and Services Tax system (GST)* and *' GST tax returns'* (as a developing concept for individuals and families) effectively making the value added tax (VAT) systems across the approximately 145 countries throughout the World that have a VAT including that of Australia a *progressive* rather than *a regressive* taxation system with significant 'tax and macroeconomic' benefits to the countries that adopt such a system.

This would effectively be achieved by extending the concept of a GST tax invoice as an analogy to a GST tax return for individuals and / or families. By developing such an analogy it is hypothesized that by multiplying the GST tax invoice – with a GST rate of 10% (as evident here in Australia) – by 0%, 10%, 20%, 30%, or on the basis of any other numerical figure, logic and

the Suits Index that the once thought of regressive GST would thus become progressive in nature.

The GST tax return would allow for the individual and / or the family situation and thus apply progressive rates in terms *of ability to pay* (premised upon assessable income or taxable income) to that tax base (expenditure) thus achieving progressivity in the indirect taxation system.

A case study approach will illustrate the progressivity of the progressive GST / VAT.

It will also be the purpose of this section of the book to look at (generally) the following tax policy issues in assessing the progressive GST / VAT:

1. Fairness or Equity

2. Simplicity

3. Efficiency / Neutrality

4. Suitability for Achieving Macro-Level Objectives: overcoming most of the costs, consequences and adverse effects of inflation and deflation.

A viable solution to the regressive-progressive GST debate both here in Australia and abroad?

It will also be a further propose of the book to propose a c.p.i adjusted cost of living allowance tax credit or rebate (both income and dis/savings based) potentially allowing for the overcoming of most of the costs, consequences and adverse effects of inflation, but also, and further, acting as a buffer against deflation, through a higher inflation target.

This part of the Book will also extend the purchasing power of the dollar price index (for income) and will thus prove through a simple mathematical representation as to how the c.p.i adjusted cost of living allowance tax credit or rebate can allow for the maintenance of the purchasing power of income (ie salaries and wages) as an initial illustrative example of the macroeconomic benefits that may potentially be achieved.

A solution to the Fisher equation will also be illustrated. The Fisher equation relates interest rates to inflation. The paper will by proposing a c.p.i adjusted cost of living allowance tax credit (dis/savings based) also funded through the progressive GST may allow for a solution to the Fisher equation. Thus through a simple mathematical representation I will attempt to prove the above.

Thus, a viable solution to the costs, consequences and adverse effects of inflation?

II Introduction

What is the Problem with the Former Wholesale Sales Tax: How We Got To Where We Are?

Perusing previous written authorship on the topic of a transition from a Wholesale Sales Tax (WST) System to a Value Added Tax (VAT) or Australian Goods and Services Tax (GST) we can observe arguments predominantly on efficiency and simplicity grounds but also macroeconomic grounds for such a move. (Leifde, 1994)

The problem with respect to the former Wholesale Sales Tax (WST) was that it had a narrow base, high and different taxation rates and an initial incidence on the inputs of business. (Leifde, 1994) The consequence of this, distortions on the ways to produce goods and services for businesses but also distorts decisions on what to consume. (Leifde, 1994)

Before the introduction of the regressive GST, there was widespread agreement that the WST system was not an effective method of indirect taxation. (Leifde, 1994)

In comparison to its major trading partners Australia relies too much on direct taxes as the income taxation costs are direct costs for companies. (Leifde, 1994)

The VAT or GST is simpler, overall administratively more feasible and economically speaking more neutral than the WST system. (Leifde, 1994)

The WST indirect tax system has been criticized for its narrow base with the exemption of many consumption items; high and variable rates; a high incidence on some business inputs; are highly regressive and the principle of horizontal equity is violated and in many cases are complicated and costly to comply with. (Freebairn, 1997)

The WST had a narrow tax base with all services being exempt from taxation, including some goods such as clothing and food. (Freebairn, 1997) The tax rates were high and variable with rates of between 12 per cent and 45 per cent, with five rates in total; 12, 22, 26, 32 and 45 per cent respectively. (Freebairn, 1997) The various rates gave rise to much uncertainty and some litigation. (Freebairn, 1997)

Thus the interest, but also, and foremost the transition to the GST. The Australian version of the VAT.

But what major improvements can be made to the regressive nature of the Goods and Services Tax and the Australian tax system as a whole? In this book 'The Progressive VAT / GST (Fiscal Policy) as a Tool of Inflation Targeting?' I will be looking at this issue from an Australian perspective but also in allowing a higher inflation target without many of the adverse effects

of inflation – the proposed solution to inflation but can also combat both the recessionary and inflationary gaps and what has been ascribed as the Global Financial Crisis – the Keynesian analogy, in times of a Great Recession. The tax policy maxims are addressed in turn.

"A tax will not have respect, and will not deserve respect, unless it is coherent in principle and has a claim to fairness..." *Professor RW Parsons (1986)*

IV What is the GST? An Australian Perspective

Discussion questions:

To what extent are the tax settings (that is, the rate, base and administration) for the GST appropriate? What changes, if any, could be made to these settings to make a better tax system to deliver taxes that are lower, simpler, and fairer? (NLP, 2015)

Answer:

The rate, base and administration of the progressive GST can make the tax system better by delivering a tax and tax system that is lower,

simpler and fairer...but also more economically efficient...(Julio Altamirano Jnr)

The Goods and Services Tax (or also termed Value Added Tax in some other countries) is the termed used to describe Australia's tax on consumption, that is, goods and services. (NLP, 2015) It is applied at a rate of 10 per cent to a broad base of goods and services capturing around 47 per cent of Australia's national consumption. (NLP, 2015) The *Australian Master Tax Guide* states that the GST is an indirect, broad-based consumption tax: (CCH, 2015)

- *Indirect* meaning that it applies to the supply of goods, services or activities, as opposed to applying directly on income. Other indirect taxes can include for instance stamp duty.
- *A Broad-based tax* means that it applies generally to all transactions by all types of taxpayers, with only very few exemptions.
- *Consumption tax* meaning that instead of being applied to income, GST is applicable on consumption. The tax is ultimately paid by consumers, not by producers or suppliers. (CCH, 2015)

In relation to the Progressive GST, this latter tax system will mean that it is both a direct (premised upon ability to pay) and indirect (premised upon the

supply of goods, services or activities) – that is the ability to pay concept is the measure of the amount of GST paid on the supply.

The broad based nature of the tax can be maintained but also can be broadened even further due to its progressivity. On consumption, we can say that the GST is applied to income but also to items spent, thus the tax is still ultimately paid by consumers, not by producers or suppliers. (CCH, 2015)

The GST, in replacing a number of narrow-based taxes was introduced in 2000. (NLP, 2015)

Predominantly, replacing a number of wholesale sales taxes with the main emphasis of overcoming complexity and distortion as a result of multiple tax rates. (NLP, 2015) It has also replaced a number of narrow-based taxes at the state level including financial institutions duties and various kinds of stamp duties, with the progressive GST paving the way for fundamental tax reform, allowing the replacement of most inefficient taxes. (NLP, 2015)

The GST is imposed by the Australian Government on behalf of the states and territories. (NLP, 2015) The tax revenues raised by the GST is provided to the states and territories (excluding non-general interest charge penalties),

with the states and territories compensating the Australian Government for the costs incurred by the ATO in administering the GST. (NLP, 2015)

Changes to the rate of the GST or base require the unanimous support of the state and territory governments, the endorsement of the Australian Government and the passage of relevant legislation by both Houses of the Australian Government as required in the 2008 *Intergovernmental Agreement on Federal Financial Relations* and the *A New Tax System (Managing the GST Rate and Base) Act 1999*. (NLP, 2015)

This would present itself as a challenge.

The GST Rate and Its Base

The GST rate in Australia is one of the lowest amongst the developed countries and is approximately half that of the average rate among OECD countries. (NLP, 2015) Of the 33 countries in the OECD that have a tax system alike the GST i.e. more generally known as value added taxes, only Canada, Japan and Switzerland have rates that are lower. (NLP, 2015)

The Australian GST applies to most goods and services. (Better Tax Review) However, due to the exemptions to Australia's GST, only 47 per cent of the consumption of all goods and services in 2012 was being taxed. (NLP, 2015) This is slightly less than the OECD average of 55 per cent and much lower than the New Zealand 96 per cent, where almost all goods and services are subject to New Zealand's version of the GST. (NLP, 2015) This would be a potential issue for reform of the Australian GST – base broadening to meet funding commitments and in the generation of additional tax revenues.

The GST distinguishes between taxable supplies and those goods and services that are not subject to GST, that is, are GST-free. (NLP, 2015) This effectively means that not only are these goods and services free of GST, so to speak, when sold, but suppliers of these GST-free goods can also claim a refund on the GST paid on the inputs they have used in the production process. (NLP, 2015)

The main items that are free of GST are fresh food, health, education, childcare, as well as water sewerage and drainage services. (NLP, 2015)

Some stakeholders support exemptions on the basis that these goods and services are 'basic necessities' and argue that the burden of applying GST to them would fall disproportionally on lower-income households. (NLP, 2015)

There are also other consumption items that are neither subject to GST nor GST-free. The definition of these items fall under are goods and services that are classified as 'input-taxed'. (Better Tax Review) Not subject to GST when a sale is made, but the suppliers cannot claim a credit or refund on the

GST levied on the inputs used for production. (NLP, 2015) These categories of items are mainly residential rent and financial supplies. (NLP, 2015)

Residential rent is at present input-taxed so that it does not distort the decision by households being indifferent as to whether to rent or live in owner-occupied homes. Further, the application of GST to residential rent would require the registration by more taxpayers and thus increasing administration and compliance costs. (NLP, 2015)

Financial supplies, that is, supplies involving the lending and borrowing of money are input-taxed due to the complexity of identifying and measuring their value, which often are not explicit. Thus applying GST to financial supplies but would also introduce an element of complexity but also means that these services are less taxed than others resulting in an approximate loss of revenue of say $4 billion in 2014-15. (NLP, 2015)

And as the Better Tax Review puts it:

> One of the key advantages of the GST is that it applies at a uniform rate to a broad range of goods and services. By taxing most goods and services in the same way and at the same rate, the GST reduces the complexity and distortions that arise when things are taxed differently. (NLP, 2015)

However, exemptions, to achieve greater fairness and equity in the GST system, complicate the neutrality or distortions when items are taxed differently due to the changing of relative prices of the goods and services. (NLP, 2015)

The VAT was first introduced more than 50 years ago, adopted in a handful of countries. (Sukumar, 2002) That however all changed since the 1960s. (Sukumar, 2002) Today it is a fundamental source of government revenue in more than 120 countries, or to be more precise in approximately 145 plus countries. (Sukumar, 2002) About 70 per cent of the world's population today have a regressive VAT in some form or the other. (Sukumar, 2002)

However, from the expression gleaned from some authors, the regressive VAT can be thought of as just that – regressive in nature – with no viable practical solution proposed and adopted to date.

Thus the 145 countries throughout the world with a value added tax have tax rates that are regressive in nature.

This introduction highlights the significance of this research. This research will propose a progressive GST or VAT (premised upon the ability to pay doctrine) here in Australia and as a potential analogy for other countries throughout the World to adopt.

This would effectively take me to the following question and which, in turn, I will seek to answer: So why despite its regressivity has the VAT become so popular?

The following quotation could perhaps serve to highlight the answer. "In recent times the VAT has received wide acclaim as a fruitful source of revenue with relatively low administrative and economic costs." (Schenk, 2007)

For instance, fiscal economists argue for the justification of the VAT on three predominant theoretical grounds:

(a) It is a neutral tax

(b) It removes cascading

(c) It achieves zero-rating of exports (Schenk, 2007)

The VAT is thus intended to tax spending "comprehensively, neutrally and efficiently." (Schenk, 2007)

The VAT is used widely in both developed and developing nations and is adopted at the local, sub national, national, and even supra-national (e.g., The European Union) levels of government. (Schenk, 2007)

However, the regressive nature of the VAT has been its key underlying

weakness (throughout the World).

V What is a Consumption Tax, and What is the Distinction Between a Direct and Indirect Tax? The Fallacy

To introduce the paper the question initially posed and simply answered is: -

What is a tax on consumption, and what is the distinction between a direct

and indirect tax?

Tax on consumption generally refers to a tax on goods and services that are acquired by

individuals for their personal use or satisfaction. It generally does not include goods and

services that are physically used or incorporated by business in the production or

distribution of goods or in the rendition of services (business inputs). (Schenk, 2007)

Taxes can be classified as either direct or indirect. (Schenk, 2007)

"According to J.S.Mill's classic economic principles, the distinction between direct and

indirect taxes relates to whether the person who actually pays the money over to the tax

collecting authority suffers a corresponding reduction in his income." (Schenk, 2007)

The distinction is one premised upon the concepts of impact and incidence. (Schenk, 2007) If impact and incidence are on different people then the tax is indirect. (Schenk, 2007) If not, then the tax is direct. (Schenk, 2007)

This distinction will be critical in providing a system of a consumption based tax with both direct and indirect characteristics.

Direct taxes can include "taxes on wages, profits, interests, rents, royalties, and all other forms of income, and taxes on the ownership of real property." (Schenk, 2007) Indirect taxes on the other hand include "sales, excise, turnover, value added, franchise, stamp, transfer, inventory and equipment taxes, border taxes and all taxes other than direct taxes and import charges." (Schenk, 2007)

Thus the fallacy of the distinction – the solution to the regressive-progressive GST debate is to premise the indirect tax on direct tax characteristics such as the ability to pay doctrine of for instance taxable income.

Premised Upon the Ability to Pay Principle

Ability to pay essentially means "…that money for public expenditures should come from "him that hath" instead of from "him that hath not." (Kendrick, 1939) As we know graduated income taxation is one form of example of the application of the principle of ability to pay. (Kendrick, 1939)

However, under the proposed direct - indirect tax system progressive rates of the goods and services tax are introduced into GST tax returns (for individuals and families) thus effectively making the GST tax systems progressive rather than regressive in nature.

Either a GST refund, GST payable or neutral figure results at the end of every year (or the averaging or smoothing of progressive rates over the life of the unit) for tax paid to the sellers of goods and services due to the difference between the flat rate of tax (the indirect value added tax component i.e. in Australia 10%) and the progressive rates of tax (the direct value added tax component) premised upon ability to pay or for that matter, on either assessable or taxable income. See Case Studies No. 1 to No. 4 as illustrated below.

Key Hypothesis: for Part I

By premising the regressive GST / VAT on Taxable Income, the regressive GST/VAT would become progressive in nature? Can the GST/VAT be made Progressive through the Ability to Pay Doctrine of Taxable Income?

Tax rates 2016–17

The following rates for 2016–17 apply from 1 July 2016.

Taxable income	Tax on this income	GST Payable
0 – $18,200	Nil	0%
$18,201 – $37,000	19c for each $1 over $18,200	10%
$37,001 – $87,000	$3,572 plus 32.5c for each $1 over $37,000	20%
$87,001 – $180,000	$19,822 plus 37c for each $1 over $87,000	30%

Tax Formula, Tax Rates and Tax Offsets

Income tax = (taxable income x rate) – tax offsets (CCH, 2015)

Adapting the income tax formula to the GST we observe:-

[Goods and Services Tax refundable or payable = (taxable income x progressive rate of GST) – tax offsets]

For example (an illustration): Case Study 1

An individual earning below the tax free threshold:

0 – $18,200   0% GST

Developing and applying the formula:

Goods and Services tax liability = (taxable income x progressive rate of GST) – tax offsets

Taxable Income or Tax Free Threshold $18,200

GST rate 10% (i.e. registered entity rate)

GST paid during financial year: $18,200 x 10% = $1,820

How can the individual obtain a GST refund for GST paid during the financial year in such a situation?

For instance:

GST refund rate 10%

GST refunded at financial year end: $18,200 x 10% = $1,820

Thus:

GST Liability = GST paid during financial year less GST refunded at financial year end

Nil = $1,820 - $1,820.

Effective rate of GST =   Total GST Liability x 100%

                                    Taxable Income

 $0/$18,200 = 0%

Effective rate of GST = 0%

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For example (an illustration): Case Study 2

An individual earning above the tax free threshold within the following tax threshold amounts:

$18,201 – $37,000   19c for each $1 over $18,200   10% GST

Applying the formula:

Goods and Services tax paid or payable = (income tax threshold x rate of GST) – tax offsets

Taxable Income $35,000

GST rate 10% on taxable income of $35,000

GST paid during financial year: $35,000 x 10% = $3,500

GST liability payable at financial year end.

Thus:

GST Liability = GST paid during financial year less GST liability outstanding at financial year end

Nil = $3,500 - Nil.

Effective rate of GST =   Total GST Liability x 100%

                                            Taxable Income

 $3,500/$35,000 = 10%

Effective rate of GST = 10%

For example (an illustration): Case Study 3

An individual earning above the tax free threshold within the following tax threshold amounts:

$37,001 – $87,000 $3,572 plus 32.5c for each $1 over $37,000   20% GST

Applying the formula:

Goods and Services tax payable = (taxable income x progressive rate of GST) – tax offsets

Taxable Income $85,000

GST rate 10% on taxable income of $85,000

GST paid during financial year: $85,000 x 10% = $8,500

GST liability payable at financial year end @ 20%

Applying the formula for GST tax payable:-

Goods and Services tax payable = (taxable income x progressive rate of GST) – tax offsets

GST Liability = $85,000 x 20% - tax offsets

GST Liability = $17,000

Thus:

GST Liability = GST paid during financial year less GST liability outstanding at financial year end

GST Liability = $8,500 - $17000

GST Liability = $8,500 at end of financial year outstanding.

Effective rate of GST = $\underline{\text{Total GST Liability x 100%}}$

Taxable Income

$17,000/$85,000 = 20%

Effective Rate of GST = 20%

For example (an illustration): Case Study 4

An individual earning above the tax free threshold within the following tax threshold amounts:

$87,001 – $180,000 $19,822 plus 37c for each $1 over $87,000
30%

Applying the formula:

Goods and Services tax payable = (taxable income x progressive rate of GST) – tax offsets

Taxable Income $180,000

GST rate 10% on taxable income of $180,000

GST paid during financial year: $180,000 x 10% = $18,000

GST liability payable at financial year end @ 30%

Applying the formula for GST tax payable

Goods and Services tax payable = (taxable income x progressive rate of GST) – tax offsets

GST Liability = $180,000 x 30% - tax offsets

GST Liability = $54,000

Thus:

GST Liability = GST paid during financial year less GST liability outstanding at financial year end

GST Liability = $18,000 - $54,000

GST Liability = $36,000 at end of financial year outstanding.

Effective rate of GST =   Total GST Liability x 100%

Taxable Income

$54,000/$180,000 = 30%

Effective Rate of GST = 30%

Thus through a case study approach we observe tax rates that are progressive in nature.

VI Introduction to the Tax Policy Maxims

I will now turn to a discussion (generally so) of the maxims by which tax policy should achieve, and apply these maxims to 'The progressive VAT / GST (Fiscal Policy) as a Tool of Inflation Targeting', namely:

1. Fairness or Equity

2. Simplicity

3. Efficiency / Neutrality

4. Suitability for Achieving Macro-Level Objectives i.e. combating inflation and deflation.

I will begin with a short exposition of the general principles of taxation as discussed by Adam Smith as an outline of tax policy maxims in light of the Henry Review of taxation.

It is necessary to outline, taking from John Stuart Mill's 'The Principles of Political Economy', the four classical maxims or principles of Adam Smith (in summary form) – the desirable qualities, in economic terms, that should feature in a system of taxation in proposing the progressive VAT / GST.

1. The subjects of every state ought to contribute to the support of the government, as nearly as possible in proportion to their respective abilities: that is, in proportion to the revenue which they respectively enjoy under the protection of the state. In the observation or neglect of this maxim consists what is called the equality or inequality of taxation.

2. The tax which each individual is bound to pay ought to be certain, and not arbitrary.

3. Every tax ought to be levied at the time, or in the manner, in which it is most likely to be convenient for the contributor to pay it.

4. Every tax ought to be so contrived as both to take out and to keep out of the pockets of the people as little as possible over and above what it brings into the public treasury of the state. (Mill, 1848)

However, in light of the above, in the 2008 Australian Federal Budget, Treasurer Wayne Swan announced a comprehensive 'root and branch' review of the Australian tax system to help create the foundation for Australia's future tax system." (Wilson-Rogers & Pinto, 2009)

The review addressed the following tax reform issues:

- Interactions between federal, state and local taxes;

- The interaction of the tax system with the proposed emission trading system and the welfare system;

- How to reduce inefficient taxes;

- The balance between work, investment and consumption taxes;

- Enhancing the taxation of savings, assets, property (including housing), investments, consumption (including excise but excluding GST), and other types of taxation collected by the states;

- The role and structure of company taxation;

- The role for environmental taxes; and

- The interrelationship between elements of the tax system. (Wilson-Rogers & Pinto, 2009)

However a key underlying weakness of the Henry Review is in its failure to allow consideration of tax reform on the GST within the terms of reference.

The Ralph Committee has also " the major objectives of economic growth and neutrality, promoting horizontal and vertical equity, and promoting simplification and certainty." (Wilson-Rogers & Pinto, 2009)

VII Shifting the Burden: From Direct to Indirect Taxes, and the Abolition of Inefficient Taxes

The Henry Review reports that Australia is reliant on "…too many taxes and too many complicated ways of delivering multiple policy objectives through the tax and transfer systems." (ALP, 2008) Thus the Henry Review articulates the key direction for future reform in the concentration on four robust and efficient tax bases:

1. personal income - assessed on a more comprehensive base;

2. business income – with more growth-oriented rates and base;

3. private consumption – through broad, simple taxes; and

4. economic rents from natural resources and land, on comprehensive bases, noting that revenue from rent taxes will likely be more volatile than from the existing resource royalties it will replace.

   o Other taxes should be maintained only if they efficiently address social or economic costs – such as taxes on tobacco, alcohol, gambling and environmental costs, and efficient road user taxes or charges. (ALP, 2008)

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The Henry Review makes the following broad claim in relation to the abolition of inefficient taxes and their revenues:

> Insurance taxes;
>
> Payroll tax;
>
> Property transfer taxes;
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> Stamp duties on the purchase of motor vehicles;
>
> Resource royalties, replaced by the rent tax;
>
> Luxury car tax;
>
> The tax on superannuation contributions in the fund;
>
> Income taxes on all government pensions, allowances and benefits; and
>
> Fuel and vehicle registration taxes, if replaced by more efficient road user charges.
>
> (ALP, 2008)

Thus we can observe how the progressive GST can fund the abolition of most inefficient taxes through its progressive and base broadening revenue raising characteristics.

For example and as an illustrative point, in support of the argument by the Henry Review to support productivity, participation and growth the review argues a shift to more efficient tax bases arguing for example for a 25 per cent company tax rate. (ALP, 2008) The Review's key direction:

Key Directions

> Maintain the company income tax rate towards the lower end of the small to medium OECD economy average, with a reduction to 25 per cent over the medium term. This aims particularly to increase the level of business investment in Australia across all sectors, including foreign direct investment; promote more entrepreneurial activity; and reduce incentives for profit-shifting offshore. (ALP, 2008)

The Henry Review also promotes "an equitable, transparent and simplified personal income tax." (ALP, 2008) Arguing for it to remain as Australia's most significant source of taxation revenue. The Review argues for it to be "…the sole means of delivering progressivity in the tax system, supporting the even more direct distributional role of the transfer system." (ALP, 2008)

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However, complying with the personal income tax system the Henry Review has submitted "…has become inordinately complex, and complexity hides its policy intent from citizens." (ALP, 2008) The Review thus proposes:

Key Directions

> A much higher personal tax-free threshold, around $25,000, should replace the current complex array of thresholds and offsets.

> All pensions, allowances and other transfer payments should be tax-free.

> A simple transparent two-step tax scale should apply.

> Deductions and offsets should be rationalised — with most work-related deductions replaced by a standard rate of deduction linked to the level of income from work. (ALP, 2008)

> Progressivity of the tax system should be enhanced by including all forms of work remuneration in personal tax returns — including employer superannuation contributions (see below for new concession framework) and the main fringe benefits. (ALP, 2008)

The Progressive GST / VAT would facilitate a reduction in marginal tax rates encouraging work but also facilitating making a shift from a regressive indirect tax to a progressive one, premised upon the individuals ability to pay (that is, assessable or taxable income), thus presenting itself as a challenge for the Henry Review and the Labor Party.

VIII Equitable Maxim of Tax Policy

I will thus look (generally) at the tax policy implications in this paper as follows:-

1   Equity

Most agree that a tax system should promote the equitable maxim. The Consultation Paper of the review discusses various aspects of equity including:

- That all individuals should have the opportunity to participate in society and achieve the things that they value;

- That those with greater economic means should pay more (vertical equity). It is noted however that there is little agreement about how economic means should be measured and what degree of progressivity in a tax system is appropriate;

- Minimal opportunities for tax avoidance and evasion.

- That families or individuals with the same capacity should face the same taxation burden (horizontal equity);

- The benefit theory which specifies that people should pay in accordance with the benefit they receive from government spending; and

- Inter-temporal and inter-generational equity. Inter-temporal equity considers how the tax / transfer system affects people over their entire life not just on an annual basis. Whereas, Inter-generational equity is concerned with how the tax transfer decisions will affect future generations. (ALP, 2008)

The Henry Review on Equity:

The tax and transfer system should treat individuals with similar economic capacity in the same way, while those with greater capacity should bear a greater net burden, or benefit less in the case of net transfers. This burden should change more than in proportion to the change in capacity. That is, the overall system should be progressive. Considerations about the equity of the system also need to take into account exposure to complexity and the distribution of compliance costs and risk. (ALP, 2008)

More specifically, a major deficiency of the GST is that it is a regressive tax, that is, "the tax represents a larger percentage of the income of a low-income household than a high-income household." (Schenk, 2007) It is submitted that the GST system which taxes expenditure or spending 'progressively'

when premised upon assessable income or taxable income would promote

this maxim when compared with the present regressive nature of the GST but

also indirect tax system, i.e. the latter in terms of the regressive impact of the

carbon tax.

IX Simplicity Maxim of Tax Policy

2. Simplicity

The Asprey Committee for instance has referred to this qualitative

characteristic as being, after equity "perhaps the next most universally sought

after of qualities in individual taxes and tax systems as a whole..."

(Barkoczy, 2007)

The Ralph Committee in its Final Report stated:

> Complexity is one consequence of continually building the business tax system upon a
>
> foundation deficient in policy design principle. Complexity has a technical dimension but
>
> is more than a matter of statutory volume or opaque language. Its structural dimension is
>
> reflected in unintended or inconsistent statutory interactions, as well as excessively
>
> legalistic provisions which lack general application and adaptability. Such structural
>
> complexity fuels a dynamic process of exploitation and anti-avoidance response that
>
> generates escalating complexity. Complexity also has a compliance dimension for
>
> taxpayers, tax administrators, the judiciary, policymakers and other stakeholders.
>
> (Wilson-Rogers & Pinto, 2009)

Simplicity is defined in the Asprey Report as:

> ...A tax will be called simple, relative to others, if for each dollar raised by it the cost of official administration is small, and if the compliance costs, the costs in money and effort of all kinds to the taxpayer, are also small. (Barkoczy, 2007)

The Henry Review discusses simplicity within the following context:

> The tax and transfer system should be easy to understand and simple to comply with. A simple and transparent system makes it easier for people to understand their obligations and entitlements. People and businesses will be more likely to make the most beneficial choices for themselves and respond to intended policy signals. A simple and transparent system may also involve lower compliance costs for taxpayers and transfer recipients. (ALP, 2008)

It is hypothesized that the progressive GST would be simple to administer. In particular, with the advent of information technology and perhaps the introduction of a 'GST Card' (transaction based) as an analogy to the EFTPOS transaction card would enable the collation of information to

prepare the GST tax return thus satisfying this tax policy characteristic. The compliance costs would, it is proposed, be relatively simple to implement and administer.

X Efficiency Maxim of Tax Policy

3   Efficiency (Neutrality)

It is argued and has been shown for instance by Pender and Ross (1993) "that effective tax rates differ by tens of percentage points for investment in different capital items (including owner-occupied homes, machinery, real estate and inventories), for different business organisations (including corporate and non-corporates), for different ways of financing investment (including debt, new equity, and retained earnings) and for different locations (including domestic and overseas)." (Freebairn & Valenzuela, A Progressive Direct Expenditure Tax, 1998)

The Henry Review discusses efficiency as follows:

The tax and transfer system should raise and redistribute revenue at the least possible cost to economic efficiency and with minimal administration and compliance costs. All taxes and transfers affect the choices people and businesses make by altering their incentives to

work, save, invest or consume things of value to them. The size of these efficiency costs varies from tax to tax…and from transfer to transfer, reflecting, in part, the extent to which they affect behaviour. Instability in policy settings can reduce economic efficiency by increasing uncertainty about the expected payoffs to long-term decisions such as investing in education, choosing retirement products, investing in long-lived productive assets and the choice of business structure. These costs represent a net loss to society as a whole, whereas revenue raised through a tax is redistributed among members of society through government expenditure, including transfer payments. (ALP, 2008)

The GST is a broad based tax and in that manner exhibits the characteristics of a neutral tax. It is argued that this characteristic would also be satisfied by the progressive GST.

XI Suitability for Achieving Macro-Level Objectives

4. Suitability for Achieving Macro-Level Objectives i.e. combating inflation and deflation.

To be an effective tax "[t]he tax should promote the macro-level economic objectives which a government is seeking to achieve, including, for example, the achievement of economic stability and growth, redistribution of income or wealth, raising of employment levels and the lowering of inflation." (Wikipedia, 2010)

It is submitted however that the regressive fixed rate of GST in Australia and the VAT across the 145 countries throughout the World are significantly flawed. Major reasons, being predominantly, due to its inflexibility, regressivity and failure to act as an instrument of fiscal policy and monetary policy, and thus, that of as a tool of inflation targeting.

Rather than being a fixed tax (as is present with the broad based nature of the Australian GST fixed at 10%), the flexibility and the progressive nature of the GST proposed in this paper will allow the tax rates to be adjusted to achieve the above macro-level economic objectives including for instance to stimulate economic demand, redistribute income or wealth, raise employment levels and lower or raise inflation.

For instance, one argument for a progressive tax is that "[a]s income levels rise, marginal propensity to consume tends to drop." (Wikipedia, 2010) "Thus it is often argued that economic demand can be stimulated by reducing the tax burden on lower incomes while raising the burden on higher incomes." (Wikipedia, 2010)

Further, "[i]t is inherent in tax policy that it implements economic and social policy." (Wikipedia, 2010) Thus "[p]eople who are concerned about a runaway, cancerous character in the global economy, greenhouse gases, etc.,

see benefits in progressive taxation, both in its braking effect on the economy and in helping shape economic activities towards necessities more effectively than purely monetary or fiscal policies." (Wikipedia, 2010)

Furthermore, the progressive GST can fund a cost of living allowance tax credit (both income and dis/savings based) the implications of which I will necessarily look as follows in Part II as a tool that can overcome most of the costs, consequences and effects of inflation and acting as a buffer against disinflation, but also that of deflation?

"The boom, not the slump, is the right time for austerity at the Treasury."

- John Maynard Keynes (1937) Collected Writings

The Budget Deficit Problem:

A Higher but Progressive GST Facilitating Base Broadening

As Grattan Institute's 2013 report entitled *Mining Boom: impacts and prospects* outlines, the government faces a budget problem. After a decade of deficits exacerbated by the Global Financial Crisis, due to higher spending and a reduction in the terms of trade could result in deficits of 4 per cent of Gross Domestic Product, or $60 billion, in today's figures in a decade. (Institute, 2014) It has been argued that the mining boom and the Global Financial Crisis has 'masked' the deficit. Australians have failed to consider that the income from the mining boom would not last and that the spending

of the Global Financial Crisis would still exist. Taxation revenues have also diminished with the impact of the Global Financial Crisis. There are:

Abolishing of the carbon and mining taxes;

Company tax cut;

Increase in defence spending;

Paid parental leave;

NDIS;

School funding reforms.

One such argument in tackling the budget problem is to broaden the GST. But the GST is a regressive tax, its impact falls harsher on those with lower incomes – thus, the ability of the progressive GST to tackle the budget problem through a higher rate and simply by broadening the base of the GST – that is, progressively raising much needed tax revenues to combat the budget problem. (Grattan Institute, 2014)

A value-added tax (VAT) whether *regressive* or *progressiv*e could become a 'cash cow' and fund much needed revenue to combat the budget deficit problems and / or additional spending programs as outlined. (Miller, 1986) As is generally accepted, even without base broadening, the U.S. value added tax "…could be a powerful revenue producer." (Miller, 1986) However, in comparison to the regressive VAT, the progressive VAT is more powerful as a revenue raiser than its regressive counterpart, due to its higher rate and broader base and also due to it being premised upon ability to pay, without sacrificing neutrality, fairness nor simplicity, major tax policy maxims.

Part II of II

By a continuing process of inflation, Governments can confiscate, secretly and unobserved, an important part of the wealth of their citizens. By this method they not only confiscate, but they confiscate arbitrarily; and, while the process impoverishes many it actually enriches some. J.M. Keynes, Inflation and Deflation (1919)

I Introduction

In introducing the topic of inflation and the macroeconomic benefits of the maintenance of the purchasing power of income but also the maintenance of the purchasing power of monies deposited in bank holdings, and the proposals for a cost of living allowance tax credit (income and dis/savings based) funded through a progressive VAT / GST for the 145 plus countries throughout the World I quote:-

...[W]itnessed the emergence of chronic inflation as a worldwide problem which has displaced unemployment as the major concern of governments of developed countries, and which in at least some less developed countries has made economic development more difficult. (Ryckegham & Maynard, 1976)

The following quotation further strengthens the argument:-

Inflation poses a serious threat to the very foundation of our economy and our society. . . nothing weakens our national confidence or the confidence of our allies more than the inability of the United States to control inflation. . . . There should be no higher-priority item on the national economic agenda than that of controlling inflation. (Foster, 1981)

We can thus see the importance of how a resolution to the costs, consequences and effects of inflation are to the economies throughout the World – the progressive VAT / GST funding a cost of living allowance tax credit (expenditure and dis/savings based) - *a viable solution to the costs, consequences and effects of inflation?*

II Definition and the Consequences of Inflation

A simple definition of inflation means 'rising prices'. (Challen & Hagger, 1981) However, in a more technical and precise sense it means "a situation in which there is a persistent upward movement in the general price level." (Challen & Hagger, 1981)

Inflation has many harmful consequences including:

- Arbitrary redistribution of real income
- Arbitrary redistribution of real wealth
- Balance of payment difficulties
- Economic efficiency
- Costs of economising on money balances
- Costs of minimizing outstanding debt
- Institutional distortion. (Challen & Hagger, 1981)

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III The Purchasing Power of the Dollar (i.e. Salaries and Wages)

(Illustrative Example)

Further in support of the hypothesis, to prove the above, I will use the purchasing power of the dollar equation or rather, calculate the price index and accordingly extend the price index.

The purchasing power in today's money of an amount C of money, t years into the future, can be computed with the formula for the present value: (Wikipedia, 2015)

$$C_t = C(1+i)^{-t} = \frac{C}{(1+i)^t}$$

where in this case i is an assumed future annual inflation rate.

Therefore,

$$C_t = \frac{\$40,000}{(1 + .07)}$$

$$C_t = \$37,383$$

However by adding a cost of living allowance tax credit (expenditure based) to the formula equal to the inflation rate it is theorised that the adaptation of the purchasing power of the price index formula would keep the purchasing power of the dollar (salaries and wages) intact.

Thus the new equation would be:-

$$C_t = \frac{\$ \quad C}{(1 + i)} \times (1 + c)$$

$$C_t = \frac{\$40,000}{(1 + .07)} \times (1 + .07)$$

Ct = $40,000

Therefore the cost of living allowance tax credit (expenditure based) equals the difference in the decline of the purchasing power of the dollar, and therefore, the purchasing power of the dollar (salaries and wages) has thus remained stable in t = 1 years with (Ct) $40,000 equalling I $40,000.

To provide a solution to the effects of inflation (ceteris paribus) would thus result in the following equation:

$$C_t = C(1+i)^{-t} = \frac{C}{(1+i)^t}$$

(Wikipedia, 2015)

We would thus simply add to the above equation:

The dollar amount of the tax credit (anti-inflationary) or rather, x = cost of living allowance tax credit (expenditure based) in dollar terms or multiply the above equation by the numerator of (1 + c) being equal to the denominator (1 + i).

Thus the c.p.i adjusted cost of living allowance tax credit (expenditure based) funded through the progressive goods and services tax cancels out the effects of inflation, thus allowing for the maintenance of the purchasing power of the dollar (salaries and wages).

IV The Fisher Equation

The *Fisher effect* has been described as an important theory in macroeconomics and financial economics. (Horn, 2008) The Fisher effect or also termed the *Fisher Hypothesis* can be defined as "the one-for-one relation between the (expected) inflation rate and the nominal interest rate." (Horn, 2008) Depending on whether the inflation is anticipated or not there are two different versions of the Fisher Equation – the *ex ante Fisher equation* and the *ex post Fisher equation*. (Horn, 2008) The Fisher equation is an identity that links the nominal interest rate, the real interest rate and the actual and expected inflation rates. As discussed it can be used in ex ante and ex post analysis. (Horn, 2008)

The ex ante Fisher Equation makes an adjustment for the cost of borrowing for the effects of expected inflation whilst the ex post Fisher Equation

decomposes the nominal interest rate into the real interest rate and the actual realised inflation rate. (Horn, 2008)

The Fisher equation is as follows:

\# 1   Real Interest Rate (ex ante)   =   Nominal Interest Rate

         less   Expected Inflation Rate

\#2   Real Interest Rate (ex post)   =   Nominal Interest Rate

         less   Actual Inflation Rate

Components of the Fisher Equation

Nominal Interest Rate: is the interest rate that is usually used in discussions. (Horn, 2008) Nominal interest rates can also be defined as interest rates in terms of dollars. (Blanchard, 2003) It can be defined as "…the nominal cost of borrowing." It is the interest rate that a borrower must pay for the borrowing of money. Hence, for lending the amount X the lender will charge the price i x X, the borrower thus repays the amount $X + I \times X = (1 + i) \times X$. (Horn, 2008)

Real Interest Rate: is a measure of the cost of borrowing (yield of lending) money as a loss or gain in purchasing power. Real interest rates can also be defined as the interest rate in terms of a basket of goods or services. This is the interest rate that matters when choosing a particular investment strategy.

(Horn, 2008)
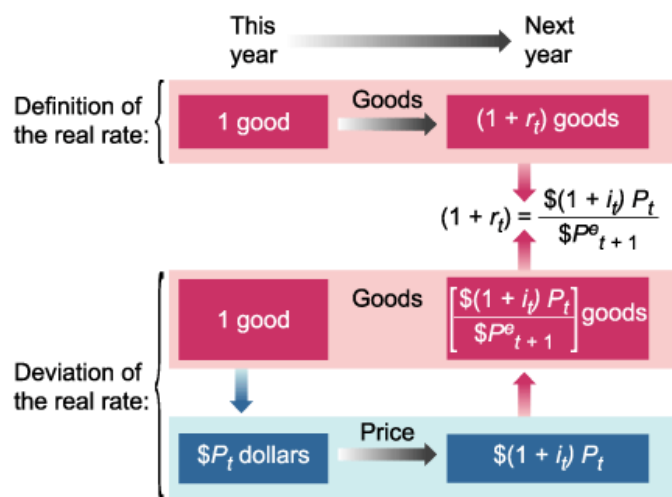
We know:

$$1 + r_t = (1 + i_t) \frac{P_t}{P^e_{t+1}}$$

Now:

$$\frac{P_t}{P^e_{t+1}} = \frac{1}{(1 + \pi^e_t)}$$

$$\pi^e_{\,t} \equiv \frac{P^e_{\,t+1} - P_t}{P_t}$$

As a consequence:

$$(1 + r_t) = \frac{1 + i_t}{1 + \pi^e_{\,t}}$$

Which is the exact relation between nominal interest rates, real interest rates and inflation.

An Observation:
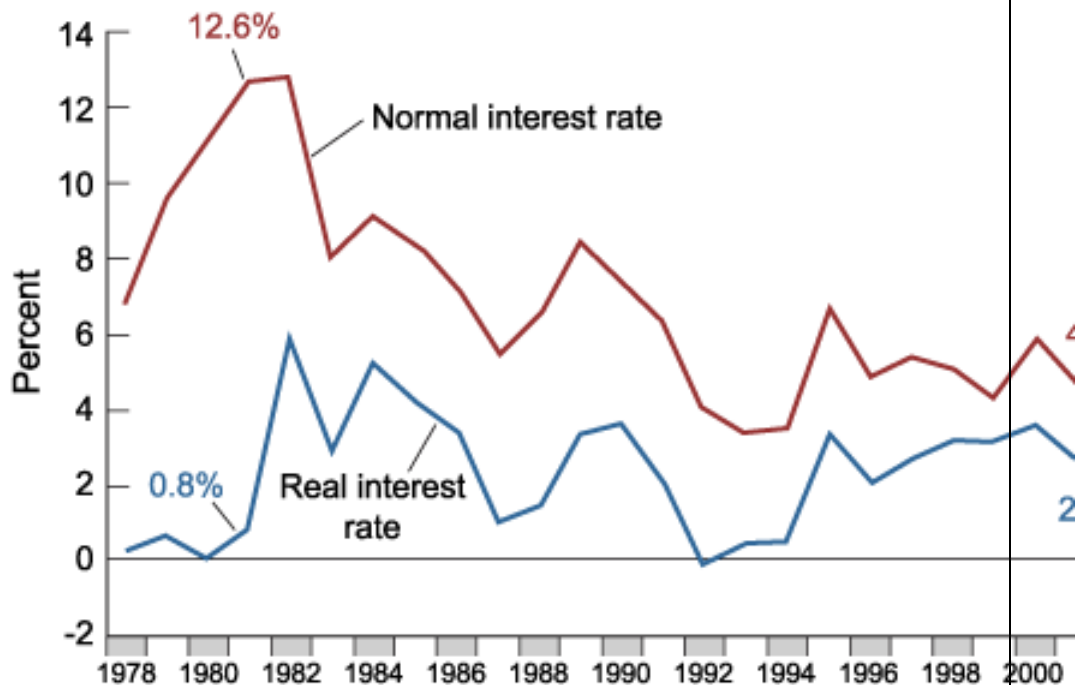
Despite the large decline in nominal interest rates, borrowing is actually more expensive in 2001 than it was in 1981.

Expected inflation and actual inflation may actually differ. Note here the ex ante real interest rate and the ex post real interest rates.

Ex Ante Real Interest Rate: is a measure of the real cost of borrowing given inflationary expectations. Ex ante, market participants only know the nominal interest rate but do not know the actual inflation rate, as a result, they also do not know the real interest rate. (Horn, 2008) At this point, the ex ante real interest rate is the market expectation of the gain in purchasing power from lending money from t to t + 1. (Horn, 2008)

Actual Inflation Rate: is the rate of change of the price level between two periods. (Horn, 2008)

Expected Inflation Rate: is the expected rate of change of the price level between two periods. (Horn, 2008)

<div align="center">Implications of the Fisher Equation</div>

The Fisher equation has interesting implications.

a. If inflation is zero, then the nominal interest rate equals the real interest rate. In such a situation money is not losing or gaining any value.

b. If inflation is greater than zero, then the nominal interest rate is greater than the real interest rate.

c. If inflation is less than zero, or deflation, then the nominal interest rate will always exceeed the nominal interest rate. (Horn, 2008)

d. For a given nominal interest rate, the higher the inflation rate, the lower real interest rate, this is particularly so if an economy is in a liquidity trap where the nominal interest rate canot be influenced by the central bank anymore. (Horn, 2008)

These implications are relevant to the ex post version of the Fisher equation. For the ex ante version replace actual inflation with expected inflation and the real interest rate with the ex ante real interest rate. (Horn, 2008)

In addition to proposing a c.p.i adjusted cost of living allowance tax credit (expenditure based) for the purchase of goods and services allowing for the maintenance of the purchasing power of the dollar (i.e. salaries and wages), I will further re-articulate a solution to the Fisher equation through the c.p.i adjusted cost of living allowance tax credit or rebate.

I will therefore (analogously) propose a c.p.i adjusted cost of living allowance tax credit (savings and dis-savings based) also funded through the proposed progressive GST.

Thus, assuming a nominal interest rate of i = 18% and an inflation rate of = 15% by using the Fisher equation we calculate the real interest rate as follows:

r   = $[(1 + i)/(1 + \text{inflation}) - 1]$

r   = $[(1 + 0.18)/(1 + 0.15) – 1]$

r   =   0.026086956

r   =   0.026

r   =   0.03

r   =   3%

Thus we observe, mathematically:

r   =   18%   -   15%

r   =   3%

Thus, the nominal interest rate of n = 18% differs with the real interest rate by the rate of inflation = 15% giving a real interest rate of 3% as mathematically computed above.

However, in proposing a potential solution to the Fisher equation we may further extend the Fisher equation for the cost of living allowance tax credit (dis/savings based) = c which, of course, is equal to the rate of inflation as depicted following:

$$r = [(1 + i)/(1 + \text{inflation}) - 1] + c$$

We can thus observe mathematically:

Assuming a nominal interest rate of i = 18% and an inflation rate of = 15% and the cost of living allowance tax credit (dis/savings based) of c = 15% and by extending the Fisher equation we calculate the adjusted real interest rate as follows:

$$r = [(1 + 0.18)/(1 + 0.15) - 1] + 0.15$$

$$r = 0.176086956$$

r = 0.1760

r = 0.18

r = 18%

Thus by observing the resultant calculation we can see that the nominal interest rate does not differ to the real interest.

Borrower's perspective:-

n = nominal interest rate

r = real interest rate

i = inflation rate

c = cost of living allowance tax credit or rebate

n   =   r   +   i   -   c

n   =   3%   +   15%   -   15%

n   =   3%

Lender's perspective:-

n = nominal interest rate

r = real interest rate

i = inflation rate

c = cost of living allowance tax credit or rebate

n   =   r   +   c

n   =   3%   +   15%

n   =   18%

Income is either saved / dissaved or spent…we thus have a new tool of inflation targeting…but can it overcome most of the costs of inflation whilst acting as a buffer against deflation or disinflation through a higher inflation target?

Thus, a viable solution to the costs, consequences and effects of inflation but acting as a buffer against deflation?

V The Role of Fiscal Policy

Similar in nature, but also, in that respects quite dissimilar to Milton Friedman in his journal article 'The Role of Monetary Policy' today's lecture will be on 'The Role of Fiscal Policy'. (Friedman, 1968)

In contrast to his dissertation I will answer as a corollary, the question – What can fiscal policy contribute and in that regards? (Friedman, 1968)

From the outset I must arrive at some definitions namely the definition of monetary theory and policy and fiscal theory and policy, and in that regards, their relationships under this tool of inflation targeting.

So what is monetary theory and policy? Monetary theory has been defined as "…comprising [the] theories concerning the influence of the quantity of money in the economic system, and monetary policy as policy employing the

central bank's control of the supply of money as an instrument for achieving the objectives of general economic policy." (Johnson, 1967)

Monetary policy has also been defined "…as control through the banking system of the money supply, *directly* by a limit (target) on its growth; or *indirectly* by measures which affect the cost and availability of credit. (Hawthorne, 1981)

Fiscal policy on the other hand can be defined as comprising theories concerning the regulation of taxation and government spending in the economic system, and fiscal policy as employing the government's tools of taxation and spending as an instrument also in achieving the objectives of general economic policy. (Johnson, 1967)

In terms of the economic theory proposed, the two are distinct but work as a backbone to each other, the instrument of fiscal policy as a tool of inflation

targeting cannot work without the potency of monetary policy, and the latter cannot work to overcome many of the latter's significant delimitations.

Monetary policy as some authors have placed the debate at centre-stage, "…has emerged as one of the most critical government responsibilities." (Hawthorne, 1981)

The new consensus before the Global Financial Crisis has been and continues to be the norm that low, stable inflation is crucial for growth, and that monetary policy is perhaps the overriding cause and contributor of inflation.

Monetary policy in contradistinction to fiscal policy with its multiple goals and long legislative lags, has provided proof as being an utmost instrument in terms of flexibility for achieving the medium-term stabilization objective. (Hawthorne, 1981)

Thus, monetary policy has been and will continue to be a most favored tool in reaction to fluctuations in for instance output, inflation or unemployment. In reply to Bernanke et al (1999) in the book "Inflation Targeting: Lessons from the International Experience" I will in response to the Global Financial Crisis place emphasis on the role that fiscal policy can play in terms of inflation targeting, and necessarily, how it can overcome and combat inflation but also in terms of a fair, simple, efficient/neutral taxation system and thus as I attributed, a 'Keynesian Tool of Inflation Targeting'.

Inflation targeting, is however, failing us. In the Global Financial Crisis the low inflation targets create concern and risks and fears of deflation (but also actual), and as I regard, pose a more serious threat than its counterpart, inflation as Keynes has once taught us.

To introduce the topic I will argue that the major macroeconomic benefits as it complements monetary policy inflation targeting is that although, as Milton

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Friedman states: "Monetary policy [i]s a string. You [can] pull on it to stop inflation but you could not push on it to halt recession. You could lead a horse to water but you could not make him drink." (Friedman, 1968) Such a theory was soon replaced by Keynesianism. (Friedman, 1968) Maynard Keynes, has offered a counterattack on 'the presumed impotence of monetary policy to stem the depression' highlighting of course this argument and why I will argue for a higher inflation target as opposed to the tight quantitative inflation targets of most inflation targeters around the World. (Friedman, 1968) If liquidity preference is absolute or nearly so – as Keynesianism would argue due to high unemployment – interest rates cannot be further reduced by monetary measures. (Friedman, 1968)

An alternative – fiscal policy could counter for reduced private investment with tax cuts stimulating consumer expenditures. (Friedman, 1968) But, we have in our tools fiscal policy as a tool of inflation targeting that, complementary to monetary policy can fight inflation but also prevent and

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Targeting

[A Theory for Inflation]

mitigate recessions. Thus, we have a viable tool of inflation targeting as an

ability to combat recessions, but also that more significantly in the combating

of both inflation and acting as a buffer against deflation, but also

complementary to that of monetary policy inflation targeting.

Like Maynard Keynes General Theory of Employment Interest and Money,

this tool of inflation targeting (as a theoretical development) has arrived in

time for the Global Financial Crisis and thus its potential role in mitigating

recessions and depressions, but also in being a fundamental tool necessary in

guiding the long term tax and macroeconomic policies of nations.

VI Inflation Targeting Perspectives: Overcoming the Problems

(Mishkin, 2010) cites three major disadvantages of inflation targeting as a monetary policy strategy. This includes: "…delayed signaling, the potential for increased output fluctuations and low economic growth."

Delayed Signaling

As (Mishkin F. S., 2010) states, "…inflation is not easily controlled by the monetary authorities." There are long lags for monetary policy to take effect, that is, "…inflation outcomes are revealed only after a substantial lag." With the fiscal policy instrument, there are no lags – the cpi adjusted tax credit or rebate is claimed through the tax system, with no lags. An overshooting of the target will still result in the tax credit or rebate being claimed through the tax system.

Increased Output Fluctuations

(Mishkin, 2010) states that inflation targets above zero reflect the concern that low inflation can result in a substantial adverse effect on real economic activity. Deflation for example can result in increased financial instability and a severe economic contraction leading to increased output loss and higher unemployment.

(Siklos, 2004) and (Kumar, 2003) define deflation "…as a sustained decline in an aggregate measure of prices, such as the consumer price index or the GDP deflator." The concern of deflation attributed to "economic uncertainties, distort resource allocation, entail distributional consequences, and lead to subpar growth performance." (Siklos, 2004) It must be understood that although low inflation does have its "economic benefits" it must also be understood that "it also reduces the buffer against deflation and

against hitting the zero bound on nominal interest rates." An increased

inflation target provides a buffer against deflation and its resultant costs.

VII Overcoming Most of the Costs of Inflation

Reiterating, (McKenna, 1990) inflation can be described as a continual increase in the general price of goods and services.   These authors accentuate that of an increase in 'general' prices, not specific instances of a price rise. In Australia, for instance, it is the consumer price index that is of concern. It effectively "…means a fall in the value of money." (Hawthorne, 1981) The consumer effectively can buy a lesser amount of goods or services than previously. (Hawthorne, 1981) The opposite of inflation is deflation which means a fall in the price level and should not be confused with disinflation. (Hawthorne, 1981) When prices are falling, the consumer can purchase more goods and services with the same amount of money, thus, the value of money has risen. (Hawthorne, 1981)

I must reiterate why inflation is an economic concern. The costs of inflation can be:

Arbitrary Redistribution of Real Income

The problem arises here for those whose "money income rises *more* rapidly than the general price level; the losers are those groups whose money income rises *less* rapidly than the general price level." (Challen & Hagger, 1981)

By extending the purchasing power of income (monies and wages) index for a c.p.i adjusted cost of living allowance tax credit or rebate this problem of inflation can significantly be overcome. There is no arbitrary redistribution of real income, the c.p.i adjusted cost of living allowance tax credit or rebate keeps the purchasing power of all incomes caught by the accounting and tax system intact.

Arbitrary Redistribution of Real Wealth

A second point to be made, is that inflation can lead "to a potentially unjust redistribution of real wealth." (Challen & Hagger, 1981) The essential issue is that "the real value of a given sum of money declines." (Challen & Hagger, 1981) For instance, if the general level of prices rise by 10 per cent "people whose wealth consists mainly of assets with a fixed, or virtually fixed, money value such as bank deposits, government bonds and private debt of various kinds will be losers, in terms of wealth, under inflationary conditions." (Challen & Hagger, 1981) "Persons whose assets consist mainly of real property will be gainers because, generally speaking, the money value of real property rises in line with, or even more rapidly than, the general price level." (Challen & Hagger, 1981) The redistribution of wealth would thus in fact be non-arbitrary and unjust.

Economic Efficiency

The movement of prices is the channel by which the market conveys information. For instance, a price increase of one good relative to others is, so to speak, the price signal that directs resources and rations consumption. (Bryan & Pike, 1991) Thus, the market operates through the distribution of prices. (Bryan & Pike, 1991)

Thus, inflation can undermine the efficiency of the economic system in numerous ways. When there is inflation, a particular price change may be a relative price change. (Bryan & Pike, 1991) Or it may also be just part of the general rise of prices. (Bryan & Pike, 1991) In the absence of inflation households and firms can assume that all price changes are relative price changes. (Bryan & Pike, 1991) Inflation however can obscure relative price changes thus obscuring the transmission of market information and thus reducing market efficiency. (Bryan & Pike, 1991)

The distinction between inflation and relative price movements is also a key issue for the conduct of monetary policy. (Bryan & Pike, 1991) A distinction must be made between both, as policymakers may react to relative price changes effectively "…complicating the economy's adjustment to a new set of prices." (Bryan & Pike, 1991) However, by failing to react to a change in the inflation rate unnecessary price level fluctuations may result. (Bryan & Pike, 1991)

Therefore, to overcome this cost of inflation, the relative price signal can and ought to be strengthened through the price tag or menu i.e. it can be a reportable requirement to disclose 'real' prices as adjusted for inflation. The formula for the computation of the 'real' price as adjusted for inflation is as follows:

Real price in month t $=$ $\dfrac{Pi}{(CPIt/100)}$

i = commodity

Pi = nominal price of commodity

CPIt = consumer price index for month t

Thus the real price is disclosed in addition to the nominal price of the commodity. [http://www.foodsecurityportal.org/adjusting-prices-inflation] accessed at 1st of January 2016.

The nominal vs real price of an item is what is paid in dollars terms for the good or service. The real price of a good or service on the other hand is the quantity of other goods to be sacrificed to purchase the good or service. For instance, if the monies used to buy a good or service also buys 6 units of other goods or services, the good or service has a real price of 6 units.

It is generally known that in making sound economic decisions, real prices are preferred over nominal prices as they reflect the opportunity cost of purchasing one good or service over another.

Calculating the % Change in Prices

To calculate the percent change in prices from year *x* to year *y*:

{(Year $_y$ price - Year $_x$ price) / Year $_x$ price} * 100 = Answer **(given with a % sign).**

Note: The year *y* price is the most current price, while the year *x* price is the earliest price. For example, year *y* may be

1994 while year *x* is 1962.

Calculating the Inflation Rate

The rate of inflation between year *x* and year *y* is

% D CPI = {(year *y*'s CPI - year *x*'s CPI) / year *x*'s CPI} * 100

where year *y* is the most current year, while year *x* is the earliest year.

Please Note: CPI is an abbreviation for the **Consumer Price Index**, which is an average of the prices of various goods and services purchased by families. The base year of the CPI is given a value of 100 (Current base year is 1982 to 84 = 100). If prices in one period are 25% higher than in the base year, that period will have a CPI value of 100 + (25% * 100) = 125. If the CPI index is 89 for a period, prices in that period are 89% of prices in the base period.

The Calculation of Relative Prices

Suppose that you are asked to calculate the 1974 relative price, which is the price that an item purchased in 1974 would have been in the base period if the item's price had increased at the rate of inflation from 1974 to the base period:

1974 Relative Price = (1974 Nominal Price / 1974 CPI Value) * 100.

Suppose that you are asked to calculate the 1993 relative price, which is the price that an item purchased in 1993 would have been in the base period if the item's price had increased at the rate of inflation from the base period to 1993:

1993 Relative Price = (1993 Nominal Price / 1993 CPI Value) * 100.

The Determination of Whether the Real Price Has Increased or Decreased

There are two methods to determine the change in the real price of a good or service:

Method 1:

This method uses relative prices. Suppose that you are asked to compare an item's nominal price in 1974 and 1993. First you must convert the nominal prices to relative prices. If the 1993 relative price is greater than the 1974 relative price, the item's price had to have increased at a rate greater than the inflation rate sometime between 1974 and 1993. In this case, there has been a real price increase. If the 1993 relative price is less than the 1974 relative price, the item's price had to have increased at a rate less than the inflation rate sometime between 1974 and 1993. In this case, there has been a real price decrease.

In general, if you are comparing the relative prices, and the relative price of the most current year is greater than the relative price of the earliest year, there has been a real price increase.

If the relative price of the most current year is less than the relative price of the earliest year, there has been a real price decrease.

Remember:

- Latest year has the largest relative price $\Rightarrow$ real price increase.

- Latest year has the smallest relative price $\Rightarrow$ real price decrease.

Method 2:

This method compares the inflation rate between two years with the percent change in nominal prices over the two years.

- Inflation rate < Percent change in nominal prices $\Rightarrow$ real price increase.
- Inflation rate > Percent change in nominal prices $\Rightarrow$ real price decrease.

Problems and Answers

1.

Year	Price
1988	$1.25
1989	$1.32
1990	$1.15
1991	$1.05
1992	$ .99
1993	$1.00

a) Calculate the percent change in prices from 1988 to 1991:

{(1991 price - 1988 price) / 1988 price} * 100

= ($1.05 - $1.25) / $1.25) * 100 = -16 %

b) Calculate the percentage change in prices between 1989 and 1993:

{(1993 price - 1989 price) / 1989 price} * 100

= {($1.00 - $1.32) / $1.32} * 100 = -24.2 %

c) Calculate the percentage change in prices between 1988 and 1989:

{(1989 price - 1988 price) / 1988 price} * 100

= {($1.32 - $1.25) / $1.25} * 100 = 5.6 %

5. The 1967 CPI is 33.4. How much lower were prices in 1967 than in the base period?

o   100 - 33.4 = 66.6 % lower.

6. The 1990 CPI is 124. How much higher were prices in 1990 than in the base period?

o   124 - 100 = 24 % higher.

7.

Year	CPI
1960	29.6
1993	144.2

What was the inflation rate from 1960 to 1993?

{(1993 CPI - 1960 CPI) / 1960 CPI} * 100

= {(144.2 - 29.6) / 29.6} * 100 = 387.2 %.

8.

Year	CPI
1981	90.9
1990	130.7

What was the inflation rate from 1981 to 1990?

{(1990 CPI - 1981 CPI) / 1981 CPI} * 100

= {(130.7 - 90.9) / 90.9} * 100 = 43.8 %.

9.

Year	CPI
1992	140.3
1993	144.2

What was the inflation rate from 1992 to 1993?

$$\{(1993 \text{ CPI} - 1992 \text{ CPI}) / 1992 \text{ CPI}\} * 100$$

$$= \{(144.2 - 140.3) / 140.3\} * 100 = 2.78 \%.$$

10.

Year	CPI	Nominal Price
1960	29.6	$10.00
1970	38.8	$13.50
1980		$23.65

	82.4	

a) What is the 1960 relative price?

1960 Relative Price = (1960 Nominal Price / 1960 CPI Value) * 100

= ($10.00 / 29.6) * 100 = $33.78

b) What is the 1970 relative price?

1970 Relative Price = (1970 Nominal Price / 1970 CPI Value) * 100

= ($13.50 / 38.8) * 100 = $34.79

c) What happened to real prices between 1960 and 1970 (use relative prices)?

1970 Relative Price ($34.79) > 1960 Relative Price ($33.78) $\Rightarrow$ **Real prices increased**.

d) What is the 1980 relative price?

1980 Relative Price = (1980 Nominal Price / 1980 CPI Value) * 100

= ($23.65 / 82.4) * 100 = $28.70

e) What happened to real prices between 1970 and 1980 (use relative prices)?

1980 Relative Price ($28.70) < 1970 Relative Price ($34.79) $\Rightarrow$ **Real prices decreased.**

f) What was the inflation rate from 1960 to 1970?

{(1970 CPI - 1960 CPI) / 1960 CPI} * 100 %

= {(38.8 - 29.6) / 29.6} * 100 = 31.1 %.

g) What was the percent change in nominal prices from 1960 to 1970?

{(1970 price - 1960 price) / 1960 price} * 100

= {($13.50 - $10.00) / $10.00} * 100 = 35 %

h) What happened to real prices between 1960 and 1970 (use % Δ in prices)?

Inflation Rate (31.1 %) < % Δ in Prices (35 %) ⇒ **Real prices increased**.

i) What was the inflation rate from 1970 to 1980?

{(1980 CPI - 1970 CPI) / 1970 CPI) * 100

= {(82.4 - 38.8) / 38.8) * 100 = 112.4 %.

j) What was the percent change in nominal prices from 1970 to 1980?

{(1980 price - 1970 price) / 1970 price) * 100

= {($23.65 - $13.50) / $13.50) * 100 = 75.2 %

k) What happened to real prices between 1970 and 1980 (use % Δ in prices)?

Inflation Rate (112.4 %) > % Δ in Prices (75.2 %) $\Rightarrow$ **Real prices decreased**.

Problem Set Taken from [https://www.cals.ncsu.edu/course/are012/helpshet/p6help.html] accessed at 31st of January 2016

Thus we can observe how the real prices have increased or decreased over the relevant period. As a result the price tag or menu can provide vital information to consumers on whether relative prices have increased or decreased during the period thus overcoming a major cost of inflation.

The notation demand pull or cost push can also be disclosed thus providing vital information to consumers on whether the inflation is attributed to demand excess or of rising costs thus strengthening the price signal/s.

Costs of Economising on Money Balances

Another cost of inflation is the cost of economizing on money balances. As the general price level rises, real values of money fall. Thus, changing one's preference for holding money as opposed to in the form of assets is necessary under inflationary conditions. The costs of economizing on money balances would thus include:

- Time and effort associated with economizing on money balances
- Inconvenience associated with illiquidity.

With the tool of inflation targeting not only is there no real loss, due to the monetary compensation, but there is no cost associated with the time and effort of economizing on money balances and further no inconvenience associated with illiquidity.

Institutional Distortion

The last economic concern in a closed economy is that expressed by Sir John Hicks, "…inflation is undesirable because it distorts the institutions which lie at the heart of modern society." (Challen & Hagger, 1981) That of, "[t]he accounting system, the tax system, even the general legal system, all are based on the assumption of a stable value of money; if the value of money is seriously changeable, they are twisted out of shape." (Challen & Hagger, 1981)

As discussed inflation is a general increase in the price level. (Kumar, 2016) How inflation affects the traditional accounting system as "…it fails to reflect the price level changes in the financial statements as it is based on historical cost." (Kumar, 2016) The AICPA has a definition of inflation accounting "…as a system of accounting, which purports to record as a built-in mechanism, all economic events in terms of current cost." (Kumar, 2016)

Features of Inflation Accounting

1. The inflation accounting has an inbuilt and automatic recording procedure.

2. The unit of measurement is not stable like traditional or historical accounting.

3. It takes into consideration all the elements of financial statements for reporting.

4. The realization principle is not rigidly followed, particularly in the case of recording fixed assets and long-term loans. (Kumar, 2016)

There is a need under inflationary conditions in accord with this economic theory to adopt inflation accounting. Why? In the Nigerian example, Statement of Accounting Standard (SAS) 2 states that "…all accounting information that will assist users to assess the financial liquidity, profitability and viability of a company should be disclosed and presented in a logical, clear and understandable manner." (Amaefule) Thus, financial statements of firms should reflect a "true and fair" view of the operations and affairs in a reportable period, so as that users of the financial reports are not misled when making decisions based on the information in the financial reports. (Amaefule)

(Amaefule) defines inflation accounting as "…that accounting system that recognizes the changes in monetary values as it affects the assets and liabilities of firms being reported on historical values." (Amaefule) And as

(Amaefule) states there can be the "…overstatement of profits, excessive payment of taxes and dividends." (Amaefule)

Nigerian firms still account under the historical cost basis, with no recognition of inflation. (Amaefule) This is quite fallacious, speaking from both an accountant or economists perspective. Thus inflation accounting can overcome the institutional distortion resulting from using historical cost accounts.

Shoe-Leather Costs

In the medium run, a higher inflation rate results in a higher nominal interest rate making a greater opportunity cost of holding money. As a consequence of this higher nominal interest rate, people reduce their money balances with greater trips to the bank – thus the term, shoe-leather costs. The higher nominal interest rate would mean that these costs, however negligible, on a

weighing up, would still exist but as (Blanchard, 2010) state "…their importance in times of moderate inflation is limited."

A Unilateral (Floating Exchange Rate) Perspective

An Australian Perspective

Implications to the Exchange Rate

Implications to raising the inflation target?

When a country's currency appreciates (rises in value relative to other currencies), the country's goods abroad become more expensive and foreign goods in that country become cheaper (holding domestic prices constant in the two countries). Conversely, when a country's currency depreciates, its goods abroad become cheaper and foreign goods in that country become more expensive. (Mishkin)

The Foreign Exchange Market: and Exchange Rate Overshooting

At this point of the research I have not fully considered in any significant detail what the higher inflation target would mean in an open economy context and implications for the exchange rate.

In an open economy context it is the exchange rate that would become the key determinant of the adoption of the macroeconomic theory unilaterally, but also further, its consideration throughout the developed economies.

The economic theory may be salient from a multilateral perspective but the reckoning force for its adoption is in fact a unilateral approach to the perspective of the adoption of this theory. Could a depreciation of the exchange rate make domestic goods cheaper than foreign goods and exports

cheaper as a higher inflation target for instance, through the monetary policy transmission mechanism and inflationary expectations?

Thus as I necessarily reiterate, what is the impetus for the adoption for instance if Australia adopts this macroeconomic tool of inflation targeting and raises the inflation target accordingly, in my opinion to say ten or fifteen per cent per annum? - an exchange rate depreciation…but of course, what does it mean to relate this back to the question for those of you with perhaps a none intricate understanding of what a higher inflation rate for Australia would mean to domestic output.

Continuing, the "international dimension" is critical to the success of this tool from a unilateral perspective and critical to the adoption of the economic tool across the developed economies, as the accounting and tax systems allow. The implications, and thought experiment but also as a practical exercise to gradually raise the inflation target would be, so to speak, an important and

critical experiment that as the theory tells, would, in my opinion become a fundamental tool as a tax that satisfies most tax policy maxims and thus significant implications to both taxation and macroeconomics and a crucial tool that will allow us to combat the Global Financial Crisis – and as a Keynesian analogy has arrived to combat the Great Recession and diagnose a solution to the problem that Maynard Keynes has himself said "…not one man in a million is able to diagnose."

I will further define an appreciation of the domestic currency as an increase in the price of a domestic currency such as the Australian dollar in terms of a foreign currency such as that of the United States. (Blanchard & Sheen, 2009) A depreciation of the domestic currency as a decrease in the price of the domestic currency in terms of a foreign currency. (Blanchard & Sheen, 2009)

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For instance, if a consumer decides to purchase more of domestic produced goods or services, the demand for domestic production increases, and thus so would domestically produced output. (Blanchard & Sheen, 2009) If on the other hand make the decision to purchase more of foreign produced goods or services, then, as a result foreign output increases as opposed to domestically produced output. (Blanchard & Sheen, 2009)

A key tenet of the decision to purchase domestic goods or on the other hand foreign goods or services is the price of foreign produced goods or services in relation to domestic goods or services, that is, the real exchange rate. (Blanchard & Sheen, 2009)

The way out of the Global Financial Crisis is for the US to raise its inflation target, where the Global Financial Crisis was triggered, with a US expansion meaning higher exports to the US, an improving trade balance (position) and stronger growth at home.

The Importance of Exchange Rates

The exchange rate is crucial to the economic well being of its citizens due to the fact that they affect the relative prices of domestic and foreign goods. Mishkin (2010)

An increase in the domestic interest rate…shifts the demand curve for domestic assets, D, to the right and causes the domestic currency to appreciate (E ↑). Similarly, [a] decrease in the domestic interest rate…shifts the demand curve for domestic assets, D, to the left and causes the domestic currency to depreciate (E ↓). Mishkin (2010) See Figure 1.1.

Monetary Policy with Floating Exchange Rates

In this section I use the AA-DD model to look at the consequences and effects of monetary policy in a floating exchange rate system. The money supply is controlled by a country's central bank. As the money supply

increases – expansionary monetary policy but if the money supply decreases it is considered contractionary monetary policy.

Expansionary Monetary Policy

For instance, if the economy is initially at the equilibrium point F in the diagram below. GDP is at the level Y1 and the exchange rate is $E_{\$/£}^1$. The US central bank, the FED, then decides to expand the money supply causing a shift in the AA – curve. An increase in the money supply will cause an upward shift of the AA curve from AA to A'A' line.
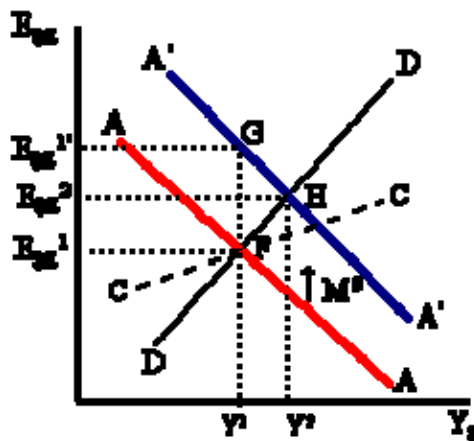
First the quick result, then the quick result with the transition process described, and finally the complete adjustment story.

> *Quick Result:* The increase in AA causes a shift in the super-equilibrium point from F to H. In adjusting to the new equilibrium at H, GNP rises from Y^1 to Y^2 and the exchange rate increases from $E_{\$/£}^1$ to $E_{\$/£}^2$. The increase in the exchange rate

represents an increase in the British pound value and a decrease in the US dollar value. In other words, it is an appreciation of the pound and a depreciation of the dollar. Since the final equilibrium point H is above the initial iso-CAB line CC, the current account balance increases. If the CAB were in surplus at F then the surplus increases, if the CAB were in deficit, then the deficit falls. Thus, *US expansionary monetary policy causes an increase in GNP, a depreciation of the US dollar and an increase in the current account balance in a floating exchange rate system according to the AA-DD model.*

Transition Description:

Consider the upward shift of the AA curve due to the increase in the money supply. Since exchange rates adjust much more rapidly than GNP, the economy will initially adjust back to the new A'A' curve before any change in GNP occurs. That means the first adjustment will be from point F to point G directly above. The exchange rate will increase from $E_{\$/£}^1$ to $E_{\$/£}^{1'}$, representing a depreciation of the US dollar.

Now at point G, the economy lies to the left of the DD-curve. Thus, GNP will begin to rise to get back to G&S market equilibrium on the DD-curve. However, as GNP rises the economy moves to the right above the A'A' curve which forces a downward readjustment of the exchange rate to get back to A'A'. In the end, the economy will adjust in a stepwise fashion from point G to point H, with each rightward movement in GNP followed by a quick reduction in the exchange rate to remain on the A'A' curve. This process will continue until the economy reaches the super-equilibrium at point H.

Notice that in the transition the exchange rate first rises to $E_{\$/\pounds}^{1'}$, above the rate it will ultimately reach at $E_{\$/\pounds}^{2}$, before settling back to super-equilibrium value. This is an example of exchange rate overshooting. In the transition, the exchange rate *overshoots* its ultimate long-run value.

Exchange rate overshooting is used as one explanation for the volatility of exchange rates in floating markets. If many small changes occur frequently in an economy, the economy may always be in transition moving to a super-equilibrium. Because of the more rapid adjustment of exchange rates, it is possible that many episodes of overshooting, both upwards and downwards, can occur in a relatively short period of time.

Complete Adjustment Story:

Step 1) When the money supply increases, real money supply will exceed real money demand in the economy. Since households and businesses hold more money than they would like, at current interest rates, they begin to convert liquid money assets into less-liquid non-money assets. This raises the supply of long-term deposits and the amount of funds available for banks to loan. More money to lend will lower average US interest rates, which in turn will result in a lower US rate of return in the FOREX market. Since $RoR_\$ < ROR_\pounds$ now, there will be an immediate increase in the demand for foreign British currency, thus causing an appreciation of the £ and a depreciation of the US $. Thus, the exchange rate, $E_{\$/\pounds}$, rises. This change is represented by the movement from point F to G on the AA-DD

diagram. The AA curve has shifted up to reflect the new set of asset market equilbria corresponding to the higher US money supply. Since the money market and foreign exchange markets adjust very swiftly to the money supply change, the economy will not remain off the new A'A' curve for very long.

Step 2) Now that the exchange rate has risen to $E_{\$/£}^{1'}$, the real exchange has also increased. This implies foreign goods and services are relatively more expensive while US G&S are relatively cheaper. This will raise demand for US exports, curtail demand for US imports, and result in an increase in current account and, thereby, aggregate demand. Because aggregate demand exceeds aggregate supply, inventories will begin to fall stimulating an increase in production and thus, GNP. This is represented by a rightward shift from point G.

Step 3) As GNP rises, so does real money demand, causing an increase in US interest rates. With higher interest rates, the rate of return on US assets rises above that in the UK and international investors shift funds back to the US resulting in a $ appreciation (£ depreciation), that is, a decrease in the exchange rate $E_{\$/£}$. This moves the economy downward, back to the A'A' curve. The adjustment in the asset market will occur quickly after the change in interest rates. Thus, the rightward shift from point G in the diagram results in quick downwards adjustment to regain equilibrium in the asset market on the A'A' curve, as shown.

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Step 4) Continuing increases in GNP caused by excess aggregate demand, results in continuing increases in US interest rates and rates of return, repeating the stepwise process above until the new equilibrium is reached at point H in the diagram.

Step 5) The equilibrium at H, lies to the northeast of F along the original DD curve. …[T]he equilibrium at H lies above the original iso-CAB line. Therefore, the current account balance will rise.

During the years between 1929 and 1933 witnessed the worst deterioration in consumers' balance sheets ever seen in the United States. The stock market crash in 1929, which caused a slump that lasted until 1933, reduced the value of consumers' wealth by $737 billion (in 2000 dollars), and as expected, consumption dropped sharply (by over $100 billion). Because of the decline in the price level in that period, the level of real debt consumers owed also increased sharply (by over 20%). Consequently, the value of financial assets relative to the amount of debt declined sharply, increasing the likelihood of financial distress. Not surprisingly, spending on consumers durables and housing fell precipitously: From 1929 to 1933, consumer durable expenditure declined by over 50%, while expenditure on housing declined by 80%." (Mishkin, 2009)

Fiscal but also Monetary Policy, in Times of Crisis

The Transmission Mechanisms of Monetary Policy

(Mishkin, 2009) reports nine channels by which monetary policy may influence the level of aggregate demand and real output. These are:

1. Traditional interest-rate effects

2. Exchange rate effects on net exports

3. Tobin's q theory

4. Wealth effects

5. Bank lending channel

6. Balance sheet channel

7. Cashflow channel

8. Unanticipated price level channel

9. Household liquidity effects.

It is thus necessary to discuss the implications of raising the inflation target.

The major premise of the argument, there is an inverse relationship between interest rates and inflation, the lower the interest rates or the greater the expansionary monetary policy, the higher the inflation rate, as evidenced by the empirical evidence of monetary growth and inflation, at least in the short term. So the question, what are the implications of a higher inflation target to the transmission mechanisms of monetary policy and its relationship to Gross Domestic Product (GDP)?

The first and the most widely accepted, is the (1) *interest rate channel*. A monetary policy which is expansionary, causes nominal interests rates and, given price rigidity, real interest rates to fall.

Falling real interest rates stimulate investment due to a reduction in the required rate of return of a project (cost of capital) and the cost of borrowing. As a result investment spending is stimulated. Similarly, consumption is

stimulated which in turn stimulates aggregate demand and thus aggregate output.

The second channel by which monetary policy can affect real economic activity is through the (2) *wealth channel*. Interest rates can indirectly influence the prices of long-term assets such as stocks, bonds, and real estate. For instance, an increase in the money supply would lower interest rates which would in turn result in an increase in stock, bond, and real estate prices and as the value of these assets increase, households see that their wealth rises and firms see that the cost of financing investment through long-term securities fall. As a consequence, investment, consumption and aggregate demand increase.

Tobin's *q* theory is also relevant here. James Tobin developed a theory, known as (3) *Tobin's q theory*, that explains how the monetary policy transmission mechanism impacts on an economy through its effect on the

valuation of equities (stock). The following transmission mechanism of monetary policy "…defines q as the market value of firms divided by the replacement cost of capital. If q is high, the market price of firms is high relative to the replacement cost of capital, and new plant and equipment capital is cheap relative to the market value of firms." "Companies can then get a higher price for a stock issue in relation to the cost of facilities and equipment they are purchasing." Investment spending will thus rise as firms can now purchase new investment goods with only a small stock issue. Thus expansionary monetary policy raises stock prices that leads to a higher q and as a result a higher amount of invetment spending that leads to higher aggregate output.

(Knoop, 2008) and (Mishkin, 2009) further reports that the *exchange rate channel* has an important influence in how monetary policy can affect the domestic economy. With the ever so more increasing of the internationalisation of economies coupled with the advent of flexible

exchange rates, the impact of how monetary policy affects the unit of account (dollar, mark, crown, lira, etc…), which in turn affect net exports and aggregate demand is ever more so important.

As domestic interest rates fall due to a monetary expansion, domestic dollar assets become less valuable relative to assets denominated in foreign currencies. The consequence, the dollar depreciates which makes domestic goods cheaper than foreign goods, resulting in an increase in export demand, reduces import demand, reduces the trade deficit and thus increases aggregate demand. (Mishkin, 2009) further supports the view that the exchange rate channel plays an important role in how monetary policy can affect the domestic economy.

The *bank lending channel* of monetary transmission operates as follows: expansionary monetary policy that results in an increase in bank reserves and bank deposits, increases the quantity of bank loans available which causes an

increase in loans which causes investment (and possibly consumer) expenditures to increase and thus aggregate demand and output.

The *balance sheet channel* operates in several ways, for instance: expansionary monetary policy which causes a rise in stock prices results in an increase in the net worth of firms and so results in an increase in higher investment spending and thus aggregate demand and aggregate output as a result of a decrease in adverse selection and moral hazard problems.

The *cashflow channel* works by its influence on the cashflow, or the difference between cash receipts and cash expenditures. The expansionary monetary policy that results in lower nominal interest rates results in an improvement in firms' balance sheets due to increasing cash flows. The increase in cash flow increases the liquidity of the firm (or household) and thus results in an easier assessment of the ability of a firm (or household) in the payment of its bills. The result, adverse selection and moral hazard

problems become less severe, resulting in a rise in lending and economic activity.

The important feature of the cash flow channel is that the nominal interest rates affect firms' cash flow. This differs in that we are looking at nominal rather than the real interest rate which affects investment.

Household liquidity effects

The credit channel focuses its attention on spending by businesses, but as Mishkin (2009) states "…the credit view should apply equally well to consumer spending, particularly on consumer durables and housing." The balance sheet of a consumer is a major determinant or indicator of the likelihood of consumers' suffering financial distress. As such, expansionary monetary policy that increases stock prices would result in an increase in the value of households' financial assets thus reducing the likelihood of financial

distress which would increase consumer durable and housing expenditure thus resulting in an increase in aggregate output.

Issue for Debate…?

What is your view…in raising the inflation target in mitigating recessions and the Global Financial Crisis?

The Solution to the Global Financial Crisis: An Expansionary Monetary Policy Perspective…

Conclusion: Significance of Research

The question or key hypothesis of the paper was whether a GST tax return for individuals or families (premised upon ability to pay doctrine) can solve the regressive-progressive GST / VAT debate and whether the progressive GST / VAT can act as a tool of inflation targeting thus a challenge to conventional monetary policy inflation targeting and whether the fiscal policy instrument of inflation targeting can overcome most of the costs of inflation and thus the question or issue, should we raise the inflation target?

APPENDIX
Figure 1.1
When the Money Supply Decreases and the Domestic Interest Rate Increases the Equilibrium Exchange Rate Rises from E1 to
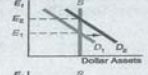**E2**
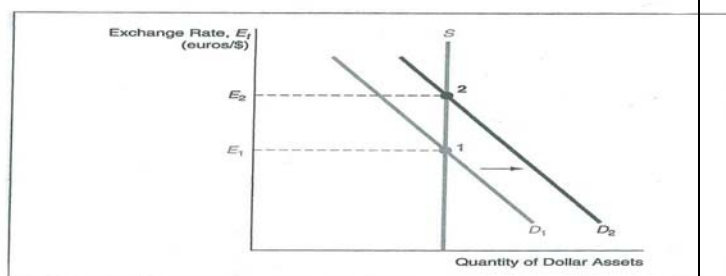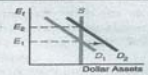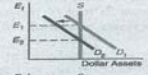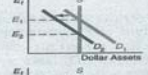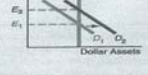
Figure 3.1 Summary Table

Factors That Shift the Demand Curve for Domestic Assets and Affect the Exchange Rate

Factor	Change in Factor	Change in Quantity Demanded of Domestic Assets at Each Exchange Rate	Response of Exchange Rate, E_t	
Domestic interest rate, i^D	↑	↑	↑	
Foreign interest rate, i^F	↑	↓	↓	
Expected domestic price level*	↑	↓	↓	
Expected trade barriers*	↑	↑	↑	
Expected import demand	↑	↓	↓	
Expected export demand	↑	↑	↑	
Expected productivity*	↑	↑	↑	

*Relative to other countries.

Note: Only increases (↑) in the factors are shown; the effects of decreases in the variables on the exchange rate are the opposite of those indicated in the "Response" column.

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