

Understanding National Accounting in hindsight

National accounting as the theory of Economic Growth

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ABSTRACT

This paper suggests a new approach for exploring national income accounting, seeing the accounts as a structure, and the income as a result of this structure. In estimating the “commonwealth” (Mun 1630 [1664]: 60) or “income of the people” (Petty 1662: 304), authors since the 17th century have measured an economic system. In order to calculate a result for the wealth of the nation, they had to decide what the ‘nation’ was, and what ‘wealth’ was (and which of it was relevant). These decisions, which are hidden in the system today, created the structure of our empirical understanding of the economy then and now. By writing a historical narrative about these structures all the way to the 20th century it can be shown that structures and results have been explicitly shaped by individuals or states seeking various political, private or even altruistic goals. Further one can identify the rift between common perceptions of economic betterment and the actual statistical aim of various national accounts, which differ from era to era, and between countries, even today. Economic growth is not a theory free statistic derived from raw data. Rather history will show that it is a highly controversial and theoretically loaded result, where every society has re-defined their notions of the economy and its growth to fit within socio-political norms and aims of their time and place.

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INTRODUCTION

This paper makes the argument that national accounting is the theoretical framework which defines the economy and economic growth. National accounting consists of a structure that has to define what the 'nation' is, and which 'income' is relevant. These two together define the scope of enquiry about the economy, and this definition, it is argued, has changed considerably over time, and has influenced economists for centuries.

The decisions about what to include in the 'nation' and what 'income' is relevant in reference to the economy are theoretical decisions that must be taken *a priori* to any data analysis or policy suggestions, and these decisions are the *structure* of national accounts.

This debate on what the economy is and how it grows, has its roots in 17th century English economic discourse. It was contended in purely scholastic arguments in the early 17th century, but with the rise of accounting, the debate shifted from explicitly qualitative arguments, into empirics where it continues to this day in national accounting exercises.

Approaching national accounting as a theoretical structure is novel to this paper, and some time is spent on introducing the method. Previous histories of national accounting did not identify nor explicitly discuss the theoretical structure of national accounts, and some of the reasons for this omission are presented in the brief literature survey.

This paper is part of a larger ongoing project to fully explore the history of national accounting and documenting the changing meaning of economic growth and the economy. As such, the years after the 17th century are beyond the scope of this paper, so a brief summary of the larger project is included to give a flavour of the whole story. It is argued that the notion of 'economic growth' is defined in the national accounts, and it has been explicitly shaped by individuals or states, seeking political, private or even altruistic goals, depending on their socio-economic situation. The argument is that 'economic growth' and the notion of the 'economy' are fluid concepts and not a theory free statistic derived from raw data. History will show that national accounting is a highly controversial and theoretical exercise, and not just observation and calculation.

National accounting as theory

The variable ‘national income’ is not a value recorded based on some observable event or definition. As anyone will tell you, it is an arduous process of data collection, addition and subtraction which leads to the calculation of the national income *result*. This result is only achieved by having a structure for making the calculation, and that structure is the national accounting framework.

As such, the empirical value for ‘economic growth’ is the direct result of this calculation, and thus from the structure within which the calculations take place.

This Paper will use the concepts of ‘structures’ and ‘results’. When I talk of national accounting, it is a reference to the structure, within which a result for the ‘state of a nation’ is arrived at. In modern terms this ‘state of the nation’ result is GDP.

This result is generally considered independently of the accounting structure, which is where national accounting ceases to be economics and start to become accounting. I want to emphasize that omitting the structure around the result leaves out most of the meaning we can hope to gain by doing the calculation in the first place, and as such the national accounting is very much an issue for economic theory.

Analogously, consider $2 + 2$. The solution for this, in basic arithmetic is 4, but it is the structure around the calculation which yields the result, and the knowledge of those rules which give it meaning. $2 + 2$ may not equal four under other rules like a triadic or base 4 number systems (in fact it equals 11 and 10 respectively). Even in a base 10 system $2 + 2$ may only approach four in some types of higher maths. Knowing that we are doing simple arithmetic at base 10 is at once taken as given, but it also defines the answer.

Similarly, Pythagoras’ famous equation $a^2 + b^2 = c^2$ only makes sense in a structure of geometry and a particular subset of planes¹ within this group to give any meaning to c^2 .

¹ Pythagoras formulae only applies for the perfect plane, and fails completely on other surfaces, like a sphere for example.

In the same way, 'national income' is the 4 or c^2 *result* of the national accounting *structure*.

It is the surrounding structure which defines what the national income calculation will be, and this structure has changed over time.

While deciding how to structure a $2 + 2$ calculation involves decisions about abstract ideas, the structure of national accounting has to include fundamental economic definitions and concepts derived from the real world and theory.

Before anything else, decide:

To arrive at a national income result, the national accountant needs to establish what the nation is. The improvement of a nation has to be considered from a national perspective, which may seem obvious today, but was not considered a proper subject of investigation until the 17th century. When the nation as a whole has been identified, its economy has to be clearly define and empirically demarcated, before its size can be estimated. So before collecting any data the national accountant *defines* the economy, and chooses what to include in terms of land, population, trade, production, natural resources etc. For example, in GDP accounting we do not include non-market transactions as part of the measure of the economy, not because we cannot estimate it, but because the national accounting structure was built to intentionally avoid these economic activities.

Then the national accountant must choose what 'income' is relevant. As early as the 17th century, this was conceptualised as some net or gross calculation of production or income. But since then, measures of 'national income' have included changes in output, costs, consumption, resources, stocks or wealth. This choice *defines* the gain or loss made by the economy and establishes the measure of national economic health. On top of this, issues about access, distribution and illegalities, to mention a few, needs to be addressed if the national accountant has notions of equal or moral growth², as some have had.

² 'Moral' growth has been characterized by national accounts not including items that were deemed immoral, bad for society, illegal etc. not because of the lack of data, but because such actions were not

Again, an example from the current system is the fact that we count income, expenditure and output, but not consumption for households, which technically remains the theoretical focus of the standard microeconomic model.

Only when the choices about what the nation is, and what its income is, can one make a sensible attempt at estimating the ‘economic growth’. To create national accounting structures, the national accountant then has to define income and the economy *a priori* to any calculations, or empirics. Furthermore, to even start this process, the investigator must presumably have some notion that the nation (or economy) is not a static entity, and that it can (and will) change for the better or worse, and the aim of the national accounts is to quantify and qualify these changes.

A philosophy of growth

Gordon (1991) identifies the 17th century as the first century after the fall of the Roman Empire where political ideas of growth and change start to take hold in Western Europe. In contrast with this period, Gordon argues that the Middle Ages were characterised by a mentality of the status quo, with slow long term changes. There was a level of social constancy, where the feudal system defined both people and the prosperity which they could hope to achieve. It is towards the end of the 16th century, were political instability in England, and continental philosophy begins to speak of self-interest as a driving force³. Then in the early 17th century, the famines and economic collapses in English commerce, the prosperity of Italian city states and the rapid rise of the previously poor ‘low countries’ (The Netherlands) foster an interest in explaining and promoting national improvements.

Attempts at conceptualising this growth usually came with some degree of nomenclature, but regardless of name given to such change, it was defined through the structure created to calculate it. ‘GDP growth’, ‘economic growth’, ‘commonwealth’, ‘income of the people’, are all different names and place holders, for some concept of economic growth,

deemed as improvements to the economic health of the nation (Kuznets 1941). ‘Equal’ growth in the sense that distribution of ‘income’ matters more than total increases, and vice versa.

³ As in the writings of Botero for example.

tied in with a particular structure of national accounting, and understanding of what the economy is.

When philosophical notions have to be compressed into simple digits, as they do in accounting, and these digits are then given authority as knowledge, the devil is truly in the detail. It is these details which have shaped the notion of ‘economic growth’ and ‘progress’ since the 17th century. These choices, made by accountants and policy makers, have often put the prevailing economic theories at odds with their contemporary national accounting practices and frameworks. This is a tension which persists even today, with a gap between modern national accounting practices, and current economic theory.

The practising economist generally takes data as given, with little after-thought as to what economic growth of 2.1% specifically refers to. The current definition of the ‘national income’ result carries the same type of historical and social baggage related to its creators, just like previous structures related to their socio-economic situations. The results (and therefore structures) have given shape to, and taken their shape from economic theories – and indeed nations – for centuries, and by exploring their history, this point will be emphatically made.

The point of writing a history of national accounting from this perspective is to show that ‘national income’ is not a notion written in stone. Rather it is a result derived from a structure, which in turn is based on the subjective judgment and theoretical application of its creators at different points in history. More to the point, national accounting, and its result, purport to be a neutral and final measure. However it has been a hugely controversial topic throughout its history, often setting the stage for executions, revolutions, censorship and wars, to mention a few. The reason for controversy lies in the economic theory inherent in the *creation* of structures, and ensuing *calculation* of results.

The history of economic growth

To give a clear picture of what each national accountant was trying to achieve, and to distinguish between definitions and concepts from account to account, I present a

summary table at the end of each national account. This table will first show why the national accountant sought to define and estimate the size of the economy (1). Then the *a priori* decisions on what or who to include in the economic calculation (2), and then what is defined as the income in that economy (3). Once the national account is processed (either arithmetically or theoretically) the result for getting growth is extracted and explained (4), and if the result has been reduced to a single figure, its definition is given (5).

TABLE 1: SUMMARY TABLE LAYOUT

Year	Name	1	Why was the account written?
		2	What is the Economy?
		3	What is included in the Economy's 'Income'?
		4	How does the Economy grow?
		5	If a single variable answer, what is the medium of value?

By using this method of presentation it should become clear exactly how much the different national accounts vary from one another, just by looking at the summaries.

Small beginnings: 1600

The idea of national income itself has not always been a notion which economic thinkers have embraced or even acknowledged. Prior to the 17th century, surveys like “*The State of England*” (Wilson 1600) were the standard work on the topic, and results were given in the form of qualitative statements for groups of individuals with a shared interest (geographical, social class, craft).

“It cannot be denied but the common people are very rich” stated Sir Wilson (1600: 752), but his reasons for this assessment was that the common man had “grown to become good husbands and know as well how to improve their lands to the uttermost as the farmer” (1600: 752).

No attempts were made at analysing the whole country (or economy). And in fact, the concept of an economic system observed separately from either the divine or natural world (The Aristotelian divide) did not exist in the literature at this point in time. Wilson considered wealth a private matter and assessed it on an individual scale while he shared

the sentiments that "Princes raigne by God" (Malynes 1603: 3) and it was their wealth and power which reflected the wealth of the nation (Malynes 1603, 1623). Political thought at the time was strongly ruled by Ciceronian logic, and it stated in accordance with Malynes' arguments, that prudence, justice, temperance and fortitude were critical for individual and state glory (Poovey 1998: 40), and these were the qualities a prince should have.

Wilson's attempt to quantify the wealth of the Nation signified some of the earliest western enlightenment attempts at understanding the economic health of a country. The account was written to estimate the incomes of the people of England. Despite this, Wilson has no overall vision for either an economic system, or an economy as a whole. He sees multitudes of groups and individual microcosms that do not constitute a cohesive whole – which very much reflects the way that England was politically run at the time with individual counties effectively under local rule (Appleby 1978). England could improve its lot in the world, but this happened through the private accumulation of monetary wealth within each group, as well as the ability to live in peace times. Wilson as a result of his conceptual framework (or lack of) did not comment on inequalities between groups, or inside groups, nor did he suggest adding up the wealth of various groups for a total. Each group (and person within that group) was effectively an island.

SUMMARY TABLE 1

1600	Wilson	1 To estimate the incomes of the people of England
		2 The 'economy' is not conceptualized, rather multiple microcosms are analyzed but they are not additive in any meaningful way.
		3 Private income for groups of individuals who share a craft, social position is considered as the economy's income.
		4 Improve private wealth, both in terms of money and peace-time living.
		5 There is no common value for 'private wealth', but gold income is used to proxy it.

1. Why was the account written? 2. What is the Economy? 3. What is included in the Economy's 'Income'? 4. How does the Economy grow? 5. If a single variable answer, what is the medium of value?

National Accounting before Accounting?

Recalling that national accounting is the structure within which an economy is conceptualized in order to debate the nations wealth, qualifies Wilson's work as one of

the earliest national accounts on record⁴. Other accounts may exist, but they have two things in common with Wilson: 1. they did not see the economy as a separate sphere of activity, let alone a measurable arena, and 2. they did not use accounting explicitly.

Accounting itself had only been introduced into England in the mid 16th century, and the system of debits and credits was still considered with great suspicion outside merchant's and the monarch's inner circles. An example of this is Wilson's (1600) note that "I have seen divers books which have collected by secretaries and counselors of estates which did exactly show the several revenues of every nobleman, knight and gentleman through the realm, and curiously collected by an uncle of mine" (Wilson 1600: 754). The curious uncle was Dr. Thomas Wilson (Thirsk and Cooper 1972), a noted author, scholar, and the crown's secretary of state from 1577-1581.

Accounting and numbers were being used by the upper echelons of society, like the royal house, to keep track of the expected amounts of money that could be borrowed in a crisis and by merchants to keep track of their business exchanges. But the practice of accounting was not considered a valid method for establishing truth, in fact the appearance of balancing figures in accounts simply established a 'balance' between values, but "the precision so prominently displayed in account books... was only a property of the system (not a property of what the system purported to represent)" (Poovey 1998: 77, citing Malynes 1623).

A long debate persisted on the use of accounting up through the early decades of the 17th century, as numbers were accused of conjuring up figures with no relation to real transactions. For example the issue of when a merchant might expect a creditor to pay, changes to 'at cost' prices, transportation and timing problems were not directly explained in accounts, and as such gave false impressions of the actual worth of merchants. Merchants despite the public critique, used accounting prolifically as the

⁴Wilson (1600) is the earliest survey of the state of any nation in post-medieval Europe that I have been able to identify.

British Empire expanded, and agents of the trading companies had to keep track of costs incurred when travelling and trading (Poovey 1998).

Early Gerard de Malynes (1601-1603)

Malynes was one of the earliest critics of accounting, and argued that “he is accompted to be of no credite, that hath no money in banke” (1601: 25), placing the emphasis on tangible assets, rather than those accounted for. Malynes’ criticism of accounting is related with the fact that numbers as such were not a valid source of knowledge. Reality was best theorized about through the scholastic method which was the norm at the time, and one does find numerous references to Plato, Aristotle and Moore in just the opening statements of Malynes’ early work (1601: 1-5).

Economic Wealth was derived from the Aristotlean separation of the natural from the unnatural (or social), with the latter (goods, coins etc) derived directly from the former. The value and prices of these goods would create an equality between ‘natural riches’ and ‘artificial riches’, and it was the exchange rates (i.e. gold value) that could bring this balance into being. It was the monarch’s divine right to set (correctly) this balancing price as “This money must have his standing valuation onley bu publick authoritie of the Prince: To whom properly belongeth the disposing thereof, as a matter annexed to his Crown and dignitie” (Malynes 1603: 7).

When the prince had established the correct artificial value of all goods, he had to avoid the “unknowne disease of the Politicke Body” (Malynes 1601: 3) and make sure to “keep a certain equality in the trade or traffic betwixt his realme and other countries” (ibid 1601: 2).

“Princes, that are the fathers of the great families of common-weales” (Malynes 1603: 1) should endeavour to earn more gold than they expended in foreign trade: “May the great father of the nation become a seller and not a buyer” (ibid. 1603: 6), because if he spends more than he earns by foreign trade, “his treasure and the wealth of the realme doth decrease” (ibid. 1601: 2). The treasury and power of the monarch is unequivocally the

yardstick by which the economy (or ‘commonwealth’ as Malynes called it⁵) is measured, and all economic transactions are guaranteed a balance due to the actions of the prince.

SUMMARY TABLE 2

1601 & 1603	Malynes	1	As Advice for the Kings Privy Council on the state of the treasury.
		2	Economic activity depends on the Kings price setting, which balances the international trade, treasury and the natural balance.
		3	The Commonwealth is the equivalent of the Kings gold.
		4	With the Kings Treasury through bringing gold-specie into the country.
		5	Gold.

1. Why was the account written? 2. What is the Economy? 3. What is included in the Economy’s ‘Income’? 4. How does the Economy grow? 5. If a single variable answer, what is the medium of value?

Malynes early reports were requested as Elizabeth I had left James I treasury rather empty, and he proceeded to spend first, and then earn some money by instituting monopolies later (Hill 1961: 32). Malynes’ early arguments for an economy defined by natural balance and the rule of the monarch were only upset by unscrupulous acts of bankers and usurers (lending at an interest rate), as it drained money out of the kings coffers.

"The use of Bankes is incompatible in any well ordered commonwealth, as time will manifest more and more daily." (1603: 191)

Fortunately the king had the authority to crack down on such activities and ensure that exchange rate and the money flows centred on his treasury. Policy should focus on the comparison between the commodities of the home country and foreign countries, and the flow of said goods, through the actions of merchants, for the betterment of the kingdom (Malynes 1603).

This line of argument is not only some of the earliest examples of an economic system or ‘economy’ being conceptualised, but one should also note that the later theories of economic activity, like charging interest, is then directly informed by the world-view laid down by the ‘national accounting’ structure.

⁵ "(A common wealth is nothing else but a great household or family:) yet the Prince (being as it were the father of the household)" (Malynes 1601: 2)

The tumultuous 1620s

A close examination of the writings on economic topics in seventeenth-century England reveals distinctly radical reworkings of the meaning of wealth, money, private initiative, economic growth, and the motive of gain. (Appleby 1978: 18-19)

At the beginning of the 17th century, English society functioned in a very particular manner. The poor laws (Corn Laws) of 1597 were re-written and formalized in 1601 creating work houses for the poor, and making church parishes responsible for distributing alms. Corn was the main staple of the diet, and it was not a commodity to be bought and sold, as alms, church tax and rent to landlords were all paid in corn. The farmer could only sell the remainder after fulfilling his 'Christian duties' in supporting the church, himself and the poor.

The establishment of the revised Corn Laws and the resulting concentration of cheap labour in parishes and the workhouses made it possible to expand cloth production. This happened to such an extent that the country started producing a net surplus, and began to export the production through the merchant guilds, which had a royal monopoly on the exportation of cloth.

Following twenty years of relatively good trading across Europe, competition with the Dutch started to pick up, and by the end of the 1610s, European demand for British cloth fell. In 1620, Britain was hit by a 'trade depression', and as exports fell, the King tried to lower the silver content in the currency, in order to allow more money to circulate and to restore the natural balance to the currency. This debasement caused inflation and a further worsening of the cloth demand. As unemployment grew in the wool industry, the nominal price of foodstuff rose, and domestic consumption was re-oriented towards covering basic needs, worsening the demand for cloth. Unemployment as a result of lost trade and the debasement of the currency led to a full blown depression in England. Different from previous recessions, Appleby in his *Economic Thought and Ideology in Seventeenth-Century England* noted that "the manipulative nature of these changes, as opposed to a divine harvest failure, led to focus on other factors as a cause" (1978: 37).

Traditional expectations lost their credibility, and the increasing invisibility of buyers and sellers prompted men to treat them as impersonal economic agents. Harvest destroying rains could be seen, felt, smelled... [Removal] of tactile experience promoted the creation of symbolic representation. Gluts in foreign markets had to be imagined... Price, Rate and credit came to stand in place for the bargain, the payment, the contract they represented (Appleby 1978: 20)

Ironically, or tragically, 1621 and 1622 were both years with very poor harvests, pushing the price of food up, and necessitating the importation of grains. It was in the light of these events that the King sought advice on how best to handle a crisis which was having very real effects on the people and trade.

Gerard De Malynes versus Edward Misselden

Malynes and Misselden were both successful London based merchants, but whereas Malynes was an 'Assay master of the Royal Mint' and a royal appointee, Misselden did not hold such public office and relied primarily on trade and the merchant guild.

Malynes publications from the beginning of the century were viciously attacked by Misselden during the 1620's recession. In particular he criticised the policy guidelines that Malynes had laid down based on what he saw were Malynes' misconceptions of what constituted the economic realm. This, through the recent availability of printing presses started a very public debate in book form on what the economy was. The writing became an intense rivalry, where every time one would publish, the other would follow up, always criticising and chastising their 'opponents' writings explicitly. An exemplar of this relationship is the introduction to Malynes' response to Misselden (1622): "Having lately perused a treatise entitled 'Free Trade' or 'The Meanes to make trade flourish' wherein the author ignorantly or willfully hath omitted..." (Malynes 1622: D2). This theoretical debate continued through the crisis, with Malynes having the last word in 1629, in his 500 page opus, "*Lex Mercatoria*".

TABLE 2: EDWARD MALYNES (EM) VS. GERALD DE MISSELDEN (GM)

Year	Author	Title
1601	G.M.	A Treatise of the Canker of England's Commonwealth
1603	G.M.	England's View in the unmasking of two Paradoxes [by De Malestroict]; With a replication unto the answer of Maister J. Bodine.
1622	E.M.	Free Trade, or The means to make trade flourish
1622	G.M.	Maintenance of Free Trade. An answer to a treatise of free trade, or The means to make trade flourish, lately published'
1623	E.M.	The Circle of Commerce
1623	G.M.	The Center of the Circle of Commerce
1629	G.M.	Lex Mercatoria

Edward Misselden 1622-1623

Misselden and Malynes were literary adversaries, but as fellow merchants they shared a common intellectual background. They were both of the scholastic school, relying on classics for 'proof' of the validity of their argument, and they both drew on the Ciceronian descriptions of how government should act and Botero's arguments that the people were motivated through self interest. Misselden however split with the Aristotelian divide that had dominated the discourse on economic matters, and he established that there was a third sphere where neither deity nor man had an influence over the outcome: The economic sphere.

Misselden wrote two volumes in response to Malynes, arguing against the policies that Malynes had so strongly recommended. He did so, on the basis that a country's currency had an intrinsic value which could not be set in any final manner by the king. This conviction was most probably an effect of seeing the currencies of Europe being debased up through the 1610s.

Misselden (1623) argued that there existed a place where other forces, beyond the natural and divine, balanced out the system, and this was found where men were free to enter into mutually beneficial contracts with each other, in international trade.

Money would circulate through the activities of merchants, as they sought to gain as much of the *fixed quantity of trade available in the world*. These activities did not require the monarch to set prices, but the actions of merchants would respond to the best options available to them. The Prince was still associated with the greatness of the country, indeed his ability to earn excise duties and maintain an army to keep the peace was tied in with the nation's political greatness, but the country's monetary situation did not require his intervention. It was not the gold in the monarchs treasury, but a positive balance of trade which meant that the country was prospering.

Uncertainty, risk and exchange would function independently from deity and monarch (Misselden 1623: 97-8), but this system was restricted to the international commercial scene, independent from the political one, and only linked into the export industry (mainly cloth) through the balancing of exchange rates and the demand which came from abroad.

SUMMARY TABLE 3

1622 - 1623	Misselden	1	In counter-argument to Malynes propositions: The price of currency and the trade it elicits cannot be controlled by the Kings valuation but rather is set by some other forces, neither natural nor social.
		2	A third sphere for 'economic activity' where a balancing between various currencies happen independent of human action.
		3	The incomes earned by the King as a result of trade and excise.
		4	Expansion of a positive trade balance (visible and invisible).
		5	Currency earned from trade with foreigners.

1. Why was the account written? 2. What is the Economy? 3. What is included in the Economy's 'Income'? 4. How does the Economy grow? 5. If a single variable answer, what is the medium of value?

Misselden took the first steps in identifying a separate sphere for economic activity and broke with the traditional view of the economy being completely controlled from above. He based his recommendations on the notion that the more income the king could have through any trade with and out of the realm, the better it was for the king and country.

Malynes 1622-1629

The sacred wisdom hath approved this *axiom*: That a King is miserable (how rich soever he be) if he raignes over a poor people, and that, that kingdome is not able to

subsist (how rich and potent soever people be:) if the King bee not able to maintain his estate (Malynes 1622: D2).

Malynes' introduction above appears on the surface to have shifted away from a focus on the king to the wellbeing of both ruler and subject. However, the argument that a king is unhappy about the plight of his subjects makes the assumption (given at the time) of a noble and just king. The conclusion remains that the people's wellbeing did not matter if the king cannot keep his estate, and indeed the aim of the governments policies should be to "enrich Kingdomes and Common-Weales, and thereby fill the princes coffers with standing treasure" (Malynes 1622: D5).

As opposed to Misselden's 'market' valuation of currency, Malynes maintained that currency should "be denominated by the *valuation of princes* as a matter peculiarly appertaining to their *prerogatives*" (Malynes 1622: 9, his emphasis).

The reason for the reliance on the monarch is less the divine rights, which were emphasized in the earlier works but now the problem lies with the selfish merchants that Misselden argued could be profitable for his definition of the economy. Merchants, Malynes argued, were "commonly without consideration of the good of the commonwealth, which is the cause that *princes* and *governors* are to sit at the sterne of the course of trade and commerce" (1622: 3-4, his emphasis).

Ways of raising the income of the nation happen through commerce, money and the exchange of money, in such a way as to maximize the income of the prince for the benefit of the nation. The industries which were not part of the colonization efforts and money trade was the cloth industry, which still was the only major export industry in the economy⁶. The "providence of the state" (Malynes 1622: 68) should take an active hand not just in the pricing of currency, but also in the explicit dealings of merchants to counteract the fact that "there is no vigilant eye to take care for the general wealth of the

⁶ It was argued by Malynes that halving the price of cloth did not led to more export demand at the time due to foreign competition, wars, piracy and bankruptcy

realme, for no nation in chistendomme Traffiques so much in Bulke of staple commodities as the realme of England” (ibid 1622: 68).

SUMMARY TABLE 4

1622 - 1629	Malynes	1	To answer Misselden, and to explain and counteract the 1621-22 recessions in England as part of the king’s privy council ⁷ .
		2	The balance of trade defines the economic realm, but it is wholly determined by the ruler.
		3	Gold physically brought to England through foreign trading
		4	Increasing the amount of gold earned by the king.
		5	Gold.

1. Why was the account written? 2. What is the Economy? 3. What is included in the Economy’s ‘Income’? 4. How does the Economy grow? 5. If a single variable answer, what is the medium of value?

Malynes quite inadvertently identified a domestic sphere for economic activity related to the cost of interest which according to him was not ruled by either the divine or the social. He did not consider domestic lending and the interest rate to be part of the wealth of the nation, beyond the fact that it was an expense for the monarch, but he was unable to align his theory of the economy (controlled as it was by the prince and deity) with this unruly phenomenon of rate changes. He attempted to explain away the issue, but chose to ignore the implications of his discovery, as his economic wealth was only tangentially connected.

The problem was usury (charging interest on loans) which was technically illegal according to the church, and thus ‘bad’. In response to the church rules, a maximum rate was eventually set by the government, as loans on interest always been offered by the non-Christian community who did not subscribe to church law (i.e. the Jews). Malynes, rather disconcertedly, showed that the shifts in supply and demand of specie could influence the interest rate without the prince’s approval or laws:

Usury in a commonwealth is so inherent and doth properly grow with the decay of trade as pasturage doth increase, with the decrease of tilling. Albeit in some respects Trade is increased by moneys delivered at use or interest on occasions, when the usurer is glad to

⁷ Chaired by Lord Maundeville (Malynes 1622: D3)

find a taker up of his moneys, and doth pray him to doe the same, by reason of the abundance of money, which maketh the price of Usury to fall, more than any law or proclamation can ever doe (Malynes 1622: 39).

These forces worked outside of Malynes' framework for what the economy were, and his only argumentation for why overpricing of interest *should* not happen was that it "provoketh Gods anger against us in the highest degree"⁸ (Malynes 1622: 40). Malynes did not know *why* interest payments did not sky-rocket or drastically fall, and did not enquire further into this anomaly, as it did not qualify as proper 'economic' activity, and as such was written out of the story.

Thomas Mun and his times 1630

Thomas Mun was another high profile merchant, drafted into the Kings Privy council to give advice on the money flows in and out of the country during the 1620s. His last work of the decade written in 1630 was not published until 1664 and was very popular⁹. The time gap represents a very critical time in English history which will be considered after reading Mun. The theoretical work that arose during this period was influential on later authors, but Mun seems to have stuck to his theoretical ideas, modifying them only slightly to fit with the current social context.

Mun's terminology in the 1664 version speaks of the country as 'a commonwealth' which it had become only in 1660, after Cromwell's victory over the deposed kings armies, and that is very much the extent to which changes seem to have happened to the 1630 script which would have been a very controversial book under the 1630 monarchy, but much less so in Cromwell's commonwealth.

Mun departed from the Scholastic approach in his work, and took a 'simple' approach, stating that "My intent is to do it as briefly as possible I may without obscurity" (Mun

⁸ For those groups not under the vestiges of the Anglican church, and thus outside the Christian deity's scope, Malynes had no explanation for why they should not abuse their privilege, and so the only suggestion for Usurers who overpriced was to insult or intimidate them: "If these men had been Iewes, I might have bestowed some Hebrew upon them in detestation of the word 'Nefhech', which is nothing else but a kind of biting as a dog useth to bite and gnaw upon a bone" (1622: 40).

⁹ Reprinted 6 times over the next century, and a further 6 times until 1949

1664: 48). Referencing was to current work on the topic and data when available, in stark contrast to using only classical sources like the scholastic approach favoured.

Mun (1664) was no fan of Malynes, and spent an efficient 12 pages (the whole of chapter XIV) attacking Malynes' conception of trade, the economy and growth. He argued that England needed to "Sell more to strangers yearly than we consume of theirs in value" (Mun 1664: 5). It was the point to run the kingdom as any private household, "where more currency be kept than be expended" (Mun 1664: 5).

Mun's Economy: 1630 – [1664]

Whereas Malynes had looked for 'standing treasure' and Misselden the Balance of Trade, Mun advocated the policy of exporting gold (specie), an incredibly controversial suggestion at the time. He argued that "the exportation of our money in trade of Merchandize is a means to encrease our Treasure" (Mun 1664: 14). Long distance buying and selling would enable English traders to expand their reach and should be considered as a form of domestic economic activity as it brought profits home, enriching the nation.

"*The proverb sayeth, he that hath ware hath mony by the year*" (Mun 1664: 16). Making sure that imports were not for consumption, but wares were bought for trade, the wealth of the nation could rise. He also noted the need for diversification, as the cloth trade could be banned from foreign countries it could lead to widespread poverty and problems – much like the early 1620s recession.

It was the monarch's role to maintain safety and security, but in doing so the prince needed to spend on infrastructure, army, and state expenses. As far as possible, state projects should be built using domestic materials, and domestic workers. If these investment goods were imported, with surplus labour available, Mun said that it was idleness in the workforce that cost the nation potential profits, and unemployment should be addressed to solve this, and make the country more self-sufficient.

Mun invented the Balance of Payments, and argued that capital, commodity and service trade was beneficial for the country, as long as a positive overall balance was kept up.

There was potential for labour to add value to output through *art*, by processing the natural wealth into artificial wealth, and this could either be used for exportation to earn revenues, or to limit imports and become self-sufficient. Gold brought into the country or into the treasury would not enrich the nation, as it had to be earned through trade and expanding the Balance of Payments.

Mun went further, as he argued that the prince’s wealth was not representative of the private man or the nation. He said that the prince might gain through taxes and excise, but the earnings of the merchants and rest of the kingdom could be small. He suggested that there was an optimal “quantity of treasure which princes may conveniently lay up yearly without hurting the common wealth” (Mun 1664: 65). The commonwealth was understood as the total money income of the population as a whole in a peaceful country, and it was the Prince’s job to ensure that he did not take too much, so as to avoid that the “life of the lands and arts must fail and fall to the ruin both of the publick and private wealth” (ibid 1664: 68).

There were separate public and private wealth, and one could impact negatively on the other, so it was critical not to take too much, or too little.

SUMMARY TABLE 5

1630 [1664]	Mun	1	To provide a ‘simple’ account of how merchants should act to promote <i>the commonwealth of a commonwealth</i> .
		2	“The King in his customs, and the kingdom in her profits” (p. 36).
		3	National wealth was the aggregate income earned from abroad (commodities, rents, services) and money wealth retained domestically.
		4	Two-pronged: Keeping a healthy balance of payments <i>and</i> “maintain a treasury and munitions which will not betray them in times of war crisis” (p. 62)
		5	There is no single measure of value, maintain Balance of Payments and Security

1. Why was the account written?
2. What is the Economy?
3. What is included in the Economy’s ‘Income’?
4. How does the Economy grow?
5. If a single variable answer, what is the medium of value?

During the middle of the century issues of distribution and what was 'fair' for the population came up in the debates surrounding the civil wars. Mun was influenced by this debate and briefly examined distribution where he argued that spending on pomp and luxuries was good "if it be done with curious and costly works upon our Materials, and by our own people, it will maintain the poor with the purse of the rich, which is the best distribution of the common-wealth" (1664: 60).

The revolutionary years: 1640-49

The early 1640s had a number of good harvests, leading to a surplus of grain. This meant that policymakers re-considered the Corn Laws to focus on employment as the best way of subsidising the poor, and also stemming the civil unrest that was growing.

By 1642 England was in the grips of a civil war, which would last until 1649 and claimed the lives of one in ten men across the country. A 1645 ordinance made all the tenure land into free land for 'common usage', undermining the feudal system, and allowing farmers to own both their land and their produce. As a result trade in grain became the norm as the poor laws no longer stipulated the alms to give while the people on 'poor support' had to buy their food, removing the 'Christian duty' of the farmer to a large extent.

By the late 1640s the country had reached a point where political issues had made it possible to question the authority of the rulers, the church and the guilds either through writing or at gunpoint, often with fatal consequences.

Nowhere is this more obvious than in 'A *discourse on Motives*' (1645) published anonymously by a group calling themselves 'The Merchant Adventurers' (TMA). First they argued against the current cloth monopoly which prevented anyone from exporting or importing cloth except the approved guild. They presented three arguments for the freeing up of the cloth trade: 1. the antiquity of the law (250 years old); 2. the guilds inability to buy all cloth produced in England undermined the trade balance; 3. The guild's claim of furthering the cloth trade are false, as there was not a limited amount of trade to go around, while the monopoly practices had forced able labour to leave

England, for better places to be creative, and these foreign competitors were now hurting the English trade.

This group of people then attacked the notion of national income as a total sum only, and established themselves as supporters of a commonwealth rather than monarchy:

The strength of a Kingdome consists in the riches of many subjects, not a few, in so much that were this Trade enlarged, it would tend to the multiplying of able and wealthy Merchants, it would disperse to it to a greater latitude, and further ennobling the Trade, and prevent the encrease of poore men and beggars up and downe the Land: For it is one of the maine reasons why there are fewer beggars seene in Commonwealths than in Kingdoms, because of community and freedom of trading, by which meanes the wealth of the Land is more equally distributed a amongst the natives (TMA 1645: 22-3)

Ultimately the wars ended in 1649 with the execution of the King, and Oliver Cromwell assumed power over England and ruled single-handedly. When his son was put on the throne after his death, the royalists again completed a coup, re-instating the king's son as the monarch of Britain.

William Petty and raising 'fair' taxes: 1662

Following the restoration of Charles II to the throne in 1660, the issue of taxation to replenish the treasury and stave of the plague was raised in parliament. William Petty offered a solution for raising taxes in a distributively 'fair' manner as opposed to the unpopular chimney tax in force, but to do so he would need to estimate "the income of the people" (Petty 1662, cited in Hull 1899: 304).

Petty assumed that the common man was living on subsistence after the effects of the wars, and that all the gold currently in circulation was spent on basic necessities (Petty 1662: 3). He then separated income made from capital and labour, and gave estimates for the total amount of gold spent in the UK, and the total amount of money derived from estates (Petty 1662: 7).

TABLE 3: PETTY'S FIRST NATIONAL ACCOUNT

Expenditure		Totalling
6 Million People expend for food, housing, clothes and other necessities	6 L, 13 S. 4 d or 4½ d per diem	£ 40,000,000
Income		
Rent, Profits and interest on Estates account for		£ 15,000,000
The labour of the people must account for	(40m – 15m)	£ 25,000,000

Adapted from Petty (1662)

Petty recognized that not every citizen would be part of the landed gentry, and therefore estimated the sizes of the labouring classes, arguing that a progressive tax on the money wealth and income of the people would earn more revenues for the government.

Petty argued that national wealth was a stock of both consumable goods (both material and immaterial) and the means of their production (i.e. estates and labour). While his accounts include the equality between gold spent and gold earned, it is based on the notion that the economy is strained, and that no saving or accumulation is taking place, and for the economy to grow one requires the absence of this equality.

Focusing solely on the income (and not the past wealth) allowed him to make an argument for taxation on current income only.

SUMMARY TABLE 6

1662 Petty (<i>Treatise on Taxes</i>)	1	Suggest a way to raise taxes in a more 'equal' manner.
	2	Money incomes of the people, derived from stock of both consumable goods (both material and immaterial) and the means of their production (i.e. estates and labour).
	3	Money earnings of domestic activities
	4	His accounts include the equality between gold spent and gold earned, it is based on the notion that the economy is strained, and that no saving or accumulation is taking place. If income > expenditure then the economy would grow.
	5	Money earned by domestic residents.

1. Why was the account written?
2. What is the Economy?
3. What is included in the Economy's 'Income'?
4. How does the Economy grow?
5. If a single variable answer, what is the medium of value?

Petty was not seemingly interested in the growth of the economy at this stage, as he does not expand on the accumulation of personal wealth, which is his growth. I would conjecture that this is because only wanted to make a tax argument, saving the economy for later.

*William Petty and Political Arithmetic: 1676*¹⁰

In the '*Politickal Arithmetic*' Petty argues that "the UK has improved in wealth and economic health" (1676: 96) contrary to popular sentiments at the time. He argued this on the basis that the productivity and wealth of a nation was not dependent on its sovereign territory, or its total population. National wealth, he argued, depended on the way land, animals and capital was utilized, and how "One man by art, may do as much work as many without it" (1676: 2). His concluding remarks on the improvements of state of the UK economy are of a much more qualitative nature than in the "*Treatise on Taxes*", as his explicit focus has changed from a tax argument, to an estimation of economic growth.

The lands of the UK has not grown smaller, but has been constantly improved upon by way of draining of marshes, tilling of land and other investment - this is growth in national income. (Petty 1676: 96)

To analyse economic progress, Petty places a premium on understanding the social make up of a country, and argues this should be the base of accounting relationships. He rejected money and relative prices as unifying terms for value, arguing that money could not buy you the same goods or services in different parts of the world (1676: 65).

Petty instead defined economic value as "the days food of an adult man, at a medium, and not the days labour" (1676: 65). Meaning his national income estimates was ultimately valued in the silver equivalent of purchasing power of food.

¹⁰ I have skipped Petty's 1665 '*Verbum Sapienti*' and will skip '*The political economy of Ireland*' (1691) but will include both in the complete work, as they are two other national accounting structures, although of a similar nature to '*The treatise*' and '*Political Arithmetic*'.

Petty took a mathematical and philosophical approach to the issue of production and national wealth, by suggesting the search for an equation between labour and land:

It would be expedient to know the content of acres of every Parish, and withall, what quantity of Butter, Cheese, Corn and Wool was raised out of it for three years consequent; For thence the natural value of the land may be known, and by number of People living on within a Market-Days Journey, and the value of their Housing, which shows the quality and expense of the said people. (1676: 63)

Labour can extract value from the land and capital, but to account for it one needs more than the sales price. It was the circumstances around the labour activities both in producing and consuming which defined how well the country as a whole was doing.

Petty seeks to measure the national income through asset of equations which gave relationships between “art and simple labour” (1676: 66)¹¹, further he discusses equations between “art and opinion”, defining a rising relationship between demand and prices (1676: 66).

Also an equation may be made between drudging labour, and favour, Acquaintance, interest, friends, eloquence, reputation, power, authority, etc. All which I thought not amiss to intimate as of the same kind with finding an equation Between Land and Labour. (Petty 1676: 67).

These mathematical relationships were probably inspired by Petty’s founding membership in the Royal Society (founded 1660) which sought to explain the world through experimentation and mathematics. It was one of the few society’s to get royal support as support for ‘free-thinking’ groups had been cut back by Charles II after what had happened to his father, and the Royal Society did not overtly seek any philosophical or political agenda, but rather concerned itself with ‘scientific’ enquiry.

¹¹ “If by such simple labour I could dig and prepare for Seed a hundred acres in a thousand days; Suppose then I spend a hundred days in studying a more compendious way, and in contriving tools for the same purpose; but in all that hundred days dig nothing, but in the remaining nine hundred days I dig 200 acres of Ground; then I say, that the said Art which cost but one hundred days Inventing is worth one mans labour for ever.” (Petty 1676: 66)

Petty remained concerned with the qualitative differences in labour conditions, the comfort of living, life expectancy and many others, which were all worked into his national income calculation¹². Accounting for all these factors, while still reaching some accounting solution for the wealth and income of the nation, he came to the offered:

the broad proposition that ‘where a people thrive, there the income is greater than the expense’. (Studenski 1958: 13, quoting Petty 1676)

Petty also added that wealth was the result of past labour, implying that income is the result of current labour – as in *‘The Treatise’* (1662). This coupled with his policies on how to improve the wealth of Ireland, which included “planting 3 millions of timber-trees... Fortifying the city of Dublin... Making several rivers navigable and mending high ways” (1676: 16), meant that there were no equalities in the final columns of this national account, as opposed to his monetary tax accounts of 1662.

Measuring income at subsistence (as was done in 1662) in general, was rejected, as qualitative differences would matter in the accounts, “for one days delicate and exquisite food may be worth ten of the ordinary” (1676: 67), and the accounts on the whole were a reflection of the number of meals the “medium” man could purchase for himself, with regard to how much hard labour he would have to endure and not his monetary possessions or income.

As such, Petty’s national account for 1676 attempted to calculate how much medium type labour the average person had to expend in order to have a comfortable lifestyle. He does not explore the issues of foreign trade, but rather takes an introspective view of how the people are doing, and he defined that as economic growth.

¹² Petty looks for "healthfulness of the land" (Petty 1676: 51) and suggests various ways of estimating population density (numbers and time) and fruitfulness (number of births).

SUMMARY TABLE 7

1676 [1691] Petty (Arithmetic)	1	To argue that the UK was in good wealth and health.
	2	The way land, animals and capital is utilised for the benefit of people.
	3	Money income as the result of current labour + profits earned + improvement in the yields granted by labour or land + improvements in the quality of life (broadly defined).
	4	“The lands of the UK has not grown smaller, but has been constantly improved upon by way of draining of marshes, tilling of land and other investment - this is growth in national income” (p. 96).
	5	Silver equivalent of an average days food + Unknown qualitative components.

1. Why was the account written? 2. What is the Economy? 3. What is included in the Economy’s ‘Income’? 4. How does the Economy grow? 5. If a single variable answer, what is the medium of value?

Petty’s change of approach from 1662 to 1676 is indicative of the different tasks he was undertaking, but it also goes a long way to illustrate how even the same authors change their structures of national accounting, and how this in turn changes the meaning of the national income result.

Ignoring the history of national accountants

Precious few histories of accounting, let alone national accounting, have been written since the 17th century, and of the few in circulation, none have investigated (or explicitly identified) the structure of different national accounts.

Jed (1989) argued that the reason for this neglect of the (national) accountant harked back to mercantilist times, as a higher status was accorded to the philosopher, than the *mere* recorder of fact. Poovey (1998), citing Sprats “*history of the Royal-Society*” (1667), further substantiated this claim by pointing out that when the Society was founded in 1660, the membership could only consist of gentlemen. Despite the usefulness of ‘trade knowledge’ and data to philosophers, the socially inferior merchants, who at the time were the accountants, should be prevented from joining society.

The status of merchants in society changed for the better over the 17th and 18th century, but they remained the primary writers and interpreters of accounting until much later, and as such accounting was not a scientific discipline, but a trade specific characteristic. Until

the *professionalisation* of accountants in the 19th century industrial revolution, little attention had been paid by historians to this ‘other’ aspect of merchant activity (Jones 1981). Even when it became identified as a discipline, it was considered as a data collection method, rather than a social science by most of its contemporaries. One of the reasons was that the conventions of accounting itself were laid down, and critiqued, in the 17th century, and they had become accepted conventions by their formalisation into industrial matters in the 19th century. The history of these practices attracted interest later in the 19th century, and today occupy a separate field in accounting and the history of social sciences.

It was not the stigma of accountants which prevented their history from being explored. It was the fact that accountants did not have a recognised separate identity from merchants for centuries. Even after the accountants’ identity was separated from the merchants, it still took decades to distinguish the national accountant as more than a collector and synthesizer of data.

The national accountant has been an even more illusive character, hidden beneath identity layers of merchant, philosopher, politician and policy advocate, only to be separated formally from them in the early 20th century, when national accounts were properly addressed as a historical topic for research.

What defines a national accountant

While accountants were motivated as merchants, national accountants came from one of two general standpoints, and thus should be identified according to these. The first of these is the policy advocate, who estimates national accounts in the context of tax or fiscal reform for parliamentary (or royal) consideration. Examples include the earliest of William Petty’s work, The “*Treatise on Taxes*” (1662), and later Gregory King’s “*State and condition of England*” (1696) all the way to Keynes’ “*How to pay for the war*” (1940). On the other hand are the political economists (or philosophers) who attempt a comparative account, arguing about the wealth and health of the nation in relation to the past or other countries – often on the basis of royal patronage, or even personal initiative.

Examples include Petty's "*Political Arithmetick*" (1676), Francis Quesnay's "*Tableau Economique*" (1758), following through to the early 1940's with Simon Kuznet's "*National Income and its composition*" (1941). Some authors qualify for both categories, but their contributions have been separate volumes for policy and philosophy in that case.

The difference between the accountant and the *national* accountant is that the national accountant sets up the structure (and economic theory) within which accountants can operate. It is true that national accountants, in turn, often defer to accountants (and their definitions) when it comes to balancing and checking calculations. The definitions of the nation and what constitutes its progress however must be laid down *a priori* to data being introduced, and this is done by the national accountant.

Accounting debates within the structure, as well as economists' debates on the treatment of specific variables, all happen after the national accounting structure is defined, by the national accountant. Analogously consider a building: The national accountant drafts the blueprints and constructs the shell of the building (or structure), much like an architect. It is then up to the carpenters (economists) to debate room sizes and add extensions, while the interior decorator (the accountant) is brought in to ensure the *feng shui* (or balance) of the interiors.

The historical literature on national accounting

Briefly after the boom in government sponsored national accounting in the early 20th century, Paul Studenski started writing what was to become the *defining* work on the history of national accounting. In "*The income of Nations*" (1958), which took 30 years to write, he covered 350 years of national accounting practices, including a vast comparison of the structures current in 1958, a thorough review of different national accounting practices in 13 countries, and a further short review of how national accounting was introduced and carried out in 66 nations.

For any scholar of national accounting this work is required reading and an excellent reference guide. Studenski's aim is to highlight the importance of utilising national

income estimates, a relatively new undertaking by national governments at the time, and to show how this practice has evolved into modern western practice. He used a historical narrative to make the point that government should create national accounting structures, and use its results for policy.

Studenski's historical material is so delivered that the reader is aware of 300 years of timely development (and occasional regress) illustrating the evolution of national accounting from "one or two private scholars struggling against public indifference... [to] how it eventually became world-wide in scope" (Studenski, 1958: 156). Despite disagreements between scholars in the West, he understood his contemporary accounting system as the standard, which past authors aimed for. He predicted that the east-block would ultimately have economic problems, not because of their policies, but because their accounting practices were inferior to those of Western Europe and the USA.

Throughout the historical analysis, the national accounting structures of past authors are regularly compared to modern practices to illustrate how the accounting structures evolved into its modern incarnation. I would argue that the historical exposition suffers from whiggish tendencies, as Studenski assumed that past authors were striving towards the accounting practices of the mid 20th century. However it is not an outright Whig history. Warren (1998) defined whig histories as having straight linear narratives, but Studenski points to backtracking, time lags, and gaps in the development of national accounting. Despite this, the history is one which highlights how the principles of 1958 and their associated concepts were introduced and evolved from the earliest days. He does not make any strong moral judgements of past authors, but their mistakes and omissions relative to 1958 standards are highlighted. He did, in my opinion, overcompare and emphasize the relation between past and present, with the implicit message that barring a few miss-steps, contemporary national accounting practice was the result of development dating back to the 17th century. He did not allow past investigators' motivations or social contexts to explain why their approaches towards accounting changed over time. By doing so he missed much of the underlying reasons for the gaps

and ideological change, in arguing that it was the progress toward the modern standard which drove developments.

This history will have a different emphasis than Studenski's, complemented by a new flavour. Studenski was promoting the usage of national accounts by arguing for the end of 'evolution' of national accounts. I would argue that the notion of 'national income' has indeed changed over the last 350 years, but it is the subjective social and political convictions of various national accountants which has driven this change. Rather than a scientific evolution towards a best practice for national accounting structures, I would argue that national accounting structures have been adapted to fit with changing perspectives of what constitute the economy and its income, and this process was anything but an evolution to any best practice.

Vanoli's "*A History of National Accounting*" (2005) aimed to update Studenski, by looking at the post WWII national accounting amendments. Whereas Studenski was aware of structural change in the framework over time, Vanoli's focus on a shorter time period prevented this structural view to be explored. He had a brief pre-1900 history of national accounting heavily based on Studenski, and identified the early developments in the 1900s as leading up to Stone and Meade's 1941 structure. The majority of the book revolved around the changes that happened in the post WWII era, and while it is a strong follow up on Studenski, and it explores the changes within the 1941 national accounting structure, it failed to recognise that its analysis was limited to a pre-defined national accounting structure. As such, his historical contribution to the literature was restricted to exploring the changes made within the 1941 structure, during the latter half of the 20th century.

Less well known is Lintott's "*Political Arithmetic: History of National Income Accounts*" (1984). He argued that national accounting estimates had been sponsored by government demand for public funds, due to wars, since the 17th century. This claim is well backed up, but he committed a *faux pas* when he claimed that national accounting systems were only invented in the 20th century. This is argued on the basis that his contemporary

accountants had identified all the relevant economic connections in the economy, and past authors failed to accomplish this in their accounts (even if those elements did not exist back then). The historical focus was solidly placed in the 1970s, and without much attention to the actual history of national accountants, this story was solidly placed in the whiggish tradition. He did however highlight that the motivations for assembling national accounting mattered, but only identified the demand coming from war policy as relevant. That motivation mattered for national accounts was still an important observation, but his brief historical analysis stopped him from developing this, or contributing to the history of national accounts much further.

Some conclusions and future research

This paper is by no means a finished product both regarding the above story, and what is to come. The national accounting debate after the 17th century became more ensconced in the methods of accounting, but still had to establish what economy it was measuring and what income it was counting before applying any of the accounting techniques themselves.

It was the aim of this paper to establish that national accounting is a theoretical structure for defining the economy and its growth, and this debate it was argued dates back to before accounting itself in the earliest periods of the 17th century. More than that, the choices made by the national accountants can (and should) be understood in their social context as every national account is based on the theory of what the economy is, and that theory has changed over time.

This argument was made by outlining the major episodes in the debate on what the economy was and how a national accounting structure was set up to account for economic growth. Moving through the 17th century it has hopefully been made clear that 'economic growth' is a changing concept. It has been defined as changes in the kings treasury, the balance of trade, the balance of payments, the quality and efficiency of inputs and outputs and it has accrued to either just the king, just the domestic people or both.

There are many theoretical choices which have to be made *a priori* to using any data and any technique, and these choices are national accounting. As such national accounting becomes the theory of what the economy is, and how it grows.

Forthcoming

These are only the first of many incarnations that ‘economic growth’ took over the years. Many innovations were made, and the full history will follow this from Petty’s 1691 ‘*Political Economy of Ireland*’ through Gregory Kings 1696 ‘*State and Condition of England*’ where ‘net’ figures were invented and caused the accounts to remain unpublished for 100 years due to bad relations with France.

Following up through 18th century France, where ministers were exiled and accountants decapitated, we return to Britain and the US where Adam Smith re-focused the notion of economic growth away from the service sector, and into manufacturing output. This again is countered by the introduction of the income tax, and the possibility to estimate income in the mid 19th century, until Marshal disagrees and disproves Smith’s dichotomy of productive versus unproductive.

Marx’s revival of unproductive sectors later shaped the national accounts of Russia, China and all the USSR satellite states, while Kuznets and the US government invented their own framework for calculating national income, only to have it officially discarded and replaced after a meeting with Keynes and his national accountants somewhere in Canada. This *one* accounting structure which Keynes, Stone and Meade managed to make the international standard to this day still differs from country to country, explaining why American government can expend the majority of its budget on heavy machinery and armaments while boosting *its* ‘economic growth’, while Britain suffers a depreciation backlash, and how China was able to boost its ‘economic growth’ by underpaying service sector jobs.

What defines economic growth and the economy remains a very current and important topic today, and it is even more important to recognize that the national accounting framework, which most commentators take for granted has an inherent theoretical element which needs to be understood properly before 'growth' statistics can be meaningfully interpreted.

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