The economic implications of law: nineteenth century legal innovation in NSW, the wool lien and stock mortgage

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Abstract

This paper examines the introduction of the wool lien and stock mortgage in New South Wales (NSW) in 1843 with two main aims: 1) to determine the role played by these legal innovations in supporting pastoral sector growth given the particular endowments of the colony and; 2) to analyse whether this legal innovation suggests law makers of the time acted as instrumentalists. The endowment set in NSW included a variable climate, abundance of grassland, and scarcity of labour that made it eminently suited to large-scale wool production. The property rights that evolved for land over the nineteenth century made it impossible for pastoralists to use that asset to raise capital. Against the backdrop of the 1840s depression the legislature needed to create a method for pastoralists to access capital where sheep were their only property and they did so via the wool lien and stock mortgage. The lien and stock mortgage were non-possessory chattel mortgages unknown in English common law. However, due to the extreme economic conditions of the depression, the British Colonial Office Secretary did not veto the use of these financial instruments. Moreover, the instruments continued to operate well after the depression had eased. The statistical analysis presented here shows that, stock mortgages had a positive and significant affect on pastoral sector GDP between 1843 and 1860. This indicates that politicians both in NSW and England acted as instrumentalists where legal innovations were aimed at expediting economic change and ensuring continued community prosperity by promoting growth in important sectors of the economy.

JEL classification: N27; N573; K11; Q15

Keywords: endowments; economic growth; legal innovation; instrumentalist law makers

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1. Introduction

There are several important works examining the legal history of NSW and the innovations introduced to suit the convict colony's specific economic and social realities (Buck, 2006; Castles, 1963; Kercher, 1995, 1996). However, the implications of legal decisions made during the colonial period on economic outcomes have been largely ignored. This paper examines the introduction of the wool lien and stock mortgage in 1843 to determine the role of legal innovation in supporting economic expansion in NSW.[1] The particular focus is how these legal innovations underpinned growth in the pastoral sector via access to capital. The two main questions being analysed are: first, to what degree did the NSW wool lien and stock mortgage compliment the endowments of NSW that gave the pastoral sector a comparative advantage over permanent agriculture? Second, to what extent did the lien and mortgage contribute to economic growth in the pastoral sector? This second question is analysed by undertaking a statistical analysis to determine whether there was a positive relationship between pastoral sector GDP and the lien and mortgage between 1843 and 1860. The findings provide evidence to indicate NSW statutory lawmakers acted as instrumentalists in the sense that they accommodated and expedited economic change while also supporting the common welfare of society (Scheiber and McCurdy, 1975). In the NSW case, lawmakers took an instrumentalist approach to the design of law because the primary objective of the lien and mortgage legislation was to promote pastoral sector expansion. The statistical analysis suggests that between 1843 and 1860 these new financial instruments contributed to this objective.

By the 1890s NSW had one of the highest per capita incomes in the world (McLean, 2007). Yet, there have been very few studies that have identified the source of this success. This

[1] NSW is the focus of the analysis because prior to 1850 it included the entire East coast of Australia. Therefore, the study refers to rules that applied to the geographical area that today incorporates Victoria, Queensland, and the Australian Capital Territory.

study contributes to a better understanding of the sources of economic growth with a focus on legal innovations and how these were driven by endowments. Endowments have been identified in economic growth literature as playing a key role in long-run growth (Engerman and Sokoloff, 2004). The primary reason endowments matter is because they shape both economic and political institutions. This paper is primarily concerned with how NSW endowments resulted in economic institutions that were based on innovations in property law relating to sheep which exploited the comparative advantage of the wool sector. The significant innovation being analysed is the creation of the wool lien and stock mortgage in 1843. This law enabled pastoralists to obtain capital by pledging to the lender their flocks or the wool of their flocks.

The lien allowed a pastoralist to use the future wool of their flock as security by which to raise capital. In this case, the creditor had rights only to the wool of the flock rather than the flock itself. If a stockman became insolvent the stock mortgage did not require assets to be distributed evenly between creditors rather, the mortgage holder was fully protected thereby ensuring 100% repayment of the debt (Castles, 1982). In other words, the law guaranteed a lenders exclusive right to the flock. Both types of security had their origins in the Roman law of hypothec – a non-possessory chattel security unknown in English common law during the period. Their creation was the result of the fact that pastoralists only asset was their sheep. The colonial approach to property rights in land meant graziers were unable to mortgage this asset to access capital. Stock mortgages and wool liens were introduced against the backdrop of the 1840s depression that threatened continued expansion of the pastoral sector and, more broadly, the viability of the NSW economy. The introduction of this legislation indicates NSW lawmakers acted as instrumentalists by

changing existing laws to ensure community prosperity. Moreover, it made NSW a leader in chattel securities throughout the English-speaking world (Decker, 2008).[2]

The remainder of the paper is as follows: section two outlines the role of endowments in shaping long-run growth and how the design of law impacts these outcomes. Section three details NSW endowments focussing on the comparative advantage of sheep grazing over permanent agriculture during the nineteenth century. Section four explains why the lien and mortgage were legal innovations and provides the statistical analysis that indicates legislators were acting as instrumentalists by designing laws that would further community prosperity given the specific endowments of the colony. Section five offers some concluding remarks.

2. Endowments, economic growth, and the design of law

Institutions are endogenous in that dynamic forces within a specific country shape them. Whether the institutions that evolve in a given setting promote growth or lead to stagnation is the subject of a vast literature (for example: Acemoglu, Johnson and Robinson, 2001, 2002; Denoon, 1983; Easterly and Levine, 2003; Engerman and Sokoloff, 2001, 2003; Glaeser, La Porta, Lopez-de-Silaner, and Shileifer, 2004; North, 1990; Sokoloff and Engerman, 2000). One sub-set of this literature focuses on the role of endowments and their influence on economic and political institutions, particularly in colonial economies.

2.1 Endowments

Endowments lead to economic and political institutions that either favour equality of access to resources and representation or they do not. For example, Sokoloff and Engerman (2000) argue that countries with soils and climates that were suited to growing cash crops for world

[2] Decker (2008) goes on to note that in the United States the chattel mortgage took the best part of the nineteenth century to develop.

markets such as sugar tended to have higher levels of inequality. The reasoning is that these crops have substantial economies of scale in production on large slave plantations. In turn, this impacts the distribution of *de jure* political power in favour of a small group of elites. These elites will ensure economic institutions such as property rights are designed in such a way as to ensure access to resources favour them resulting in high levels of inequality.

Broadly speaking, endowments include factors such as climate, soil, and labour. Climate and soil determine the suitability of particular environments for the production of specific crops. Generally, in more temperate locations climate and soil favour the production of grain crops. This, in turn, influences the organisation of production that favours small farm arrangements compared with large plantations. Further, in a colonial setting, the greater the volume of indigenous labour that survives contact with Europeans tends to lead to social organisation that relies on extraction of that labour. This is linked to what Denoon (1983) referred to as the creation of extractive colonies where the conquering elites exploit endowments in their own favour. Moreover, the climate in these locations tends to prevent the settlement of a large proportion of Europeans because disease exposure is high. Combined, these endowments therefore, lead to "the evolution of institutions that protected the privileges of elites and restricted opportunities for the broad mass of the population to participate fully in the commercial economy…" (Sokoloff and Engerman, 2000: 221).

One important aspect of the role of endowments for the purposes of the analysis here is the role of *de jure* political power. The concentration of political power in favour of elites allows them to create property rights that restrict access to resources and thereby, wealth to other groups. By controlling *de jure* political power therefore, elites have a monopoly over the design of law that determines the structure of markets and their underlying incentives. This,

in turn, determines who can participate as well as the organisation of production and exchange. For example, Banner (2000) argues colonisation in New Zealand made the Maori subject to British law that was then manipulated to promote access to resources for British settlers. The main effect of this was to reallocate land away from the Maori. Banner (2000) goes on to argue that it was not the British monopoly over violence that mattered as much as their legal monopoly. In other words, the British had a monopoly over institutional design via their control over the design of law.

2.2 Design of law

In a colonial setting, who controls the design of law is determined by the colonising power. These arrangements may mean local control is conditional on the approval of law by a third party that is not immediately affected by the outcome. In the case of Britain, it was the Secretary of the British Colonial Office (BCO) that administered the vast empire on behalf of the Crown.[3] The BCO Secretary advised the Crown as to whether laws designed in each colony where consistent with English law. Accordingly the Secretary would recommend to the Crown whether a colony's law should be retained or voided. This power was exercised via the repugnancy doctrine that had its origins in the 1609 Virginia Charter and the formula was repeated in future charters and commissions (Campbell, 1965). The doctrine dictated that any laws considered repugnant to the laws of England would be void.[4] In NSW, Imperial legislation of 1823 included a repugnancy clause (s. 29) that required judicial review of laws proposed by the governor.[5] For any legislation to be considered by the Crown nominated

[3] Britain is used as the primary example here because NSW was a British colony so the operation of that country's approach to design of law will have implications for local designers.

[4] Throughout the paper England is used to refer to that country alone while the term 'Britain' refers to the entirety of the United Kingdom, including Scotland, Ireland, and Wales. This distinction is required because Scotland and Ireland had their own common law systems that were separate to English law.

[5] This was 'An Act to provide, until the First Day of July One thousand eight hundred and twenty-seven, and until the End of the next Session of Parliament, for the better Administration of Justice in New South Wales and Van Diemen's Land, and for the more effectual Government thereof and for

Legislative Council, the governor had to obtain a certificate from the Chief Justice of the Supreme Court that it was not repugnant. Kercher (1995) argues this clause ordered the governor and Council not to be innovative in their design of law.

The 1823 legislation expired after five years and was subsequently replaced in 1828 with the *Australian Courts Act* (9 Geo. IV c. 83).[6] In that Act, the repugnancy clause (s. 22) allowed all sitting judges of the Supreme Court to raise the issue as to whether colonial legislation violated English law. However, the Legislative Council was permitted to enact the statute regardless of these opinions and await BCO review or a Supreme Court challenge. In turn, the colonial legislation would remain in force, even if repugnant, until either type of review took place (Campbell, 1965). Moreover, s. 24 of the 1828 Act allowed the governor or Legislative Council to declare what English laws were in operation in the colony and to limit or modify those laws. Section 24 reads as follows:

> That all Laws and Statutes in force within the Realm of England at the Time of the passing of this Act, (not being inconsistent herewith, or with any Charter or Letters Patent or Order in Council which may be issued in the pursuance hereof), shall be applied in the Administration of Justice in the Courts in New South Wales and Van Diemen's Land respectively, *so far as the same can be applied within the said Colonies*; and as often as any Doubt shall arise as to the Application of any such Laws or Statutes in the said Colonies respectively, by and with the Advice of the Legislative Councils of the said Colonies respectively, by Ordinances to be by them for that Purpose made, to declare whether such Laws or Statutes shall be deemed to extend to the Colonies, and to be in force within the same, or to make and establish such *Limitations and Modifications of any such Laws and Statutes within the said Colonies respectively as may be deemed expedient on that Behalf*: Provided always, that in the meantime, and before any such Ordinances shall actually be made, it shall be the Duty of the said Supreme Courts, as often as any such Doubts shall arise upon the Trial of any Information or Action, or upon any other Proceeding before them, to adjudge and decide as to the Application of any such Laws or Statutes in the said Colonies respectively.

One major drawback of the repugnancy doctrine was how it was to be applied by colonial judges. Campbell (1965) notes that in considering any local legislation judges could opt for a

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other Purposes relating thereto' otherwise known as the *NSW Act* (4 Geo. IV c.96). The legislation created a Legislative Council whose members were nominated by the Crown. The governor was the only individual permitted to introduce satutes to the Council.

[6] The full title of this legislation was: 'An Act to provide for the Administration of Justice in New South Wales and Van Diemen's Land, and for the more effectual Government thereof, and for other Purposes relating thereto.'

wide or narrow interpretation of repugnancy. Two main factors appear to drive NSW judges interpretations: 1) repugnance was determined in relation to the 'spirit' of English law rather than actual wording and 2) whether modifications that were otherwise repugnant were necessary for the peace, welfare, and good government of the colony. For example, when the *Bush Ranging Act* (5 Will. IV No. 9, 1834) permitted any private individual without a warrant to arrest another individual on suspicion of them being an escaped convict Chief Justice Forbes believed local conditions required this measure even though it appeared contrary to English arrest power laws (Campbell, 1965).[7] Contrast this with Forbes' stance on attempts by the governor to constrain freedom of the press in 1825 where the Chief Justice refused his certificate stating, "By the laws of England….every man has the right of using the common trade of printing and publishing newspapers…the liberty of the press is regarded as a constitutional privilege" (quoted in Kercher, 1995: 85). Holloway (2004) notes Forbes' appointment as Chief Justice was serendipitous because he viewed the cultivation of individual liberty as the cornerstone of English social values. Moreover, Kercher (1995) argues Forbes was more liberal with regard to colonial conditions and the need for legal modifications than were some of his contemporaries such as, Justice Burton.

The willingness of Supreme Court judges to admit the idea that local conditions may require some variation to the laws of England gave the governor and Legislative Council powers to design laws based on colony specific factors. In turn, this provided lawmakers with an avenue via which to engage in legal innovation. The innovations that occurred for instance, the wool lien and stock mortgage suggest successive governors and the Council took an instrumentalist view of law making. As instrumentalists, these actors recognised the unique endowments of NSW for example, an arid climate that made it necessary for them to change existing laws for the prosperity of the community at large (Scheiber and McCurdy, 1975).

[7] The full title of this act was 'An Act to facilitate the apprehension of transported felons and offenders illegally at large or persons found with arms and suspected to be robbers.'

Specifically, these decision makers were aware of changing economic conditions in the colony and their design of law had, as it's primary objective, the promotion of economic growth.

Moreover, successive BCO Secretaries also acted along instrumentalist lines by limiting their exercise of the repugnancy doctrine where its use would constrain NSW growth. This permitted legal innovation in the form of the wool lien and stock mortgage to evolve when in fact they were repugnant to English common law. For example, in relation to the wool lien, the BCO Secretary, Lord Stanley noted to Governor Gipps:

> so irreconcilably opposed to the principles of legislation immemorially recognised by this country, respecting the alienation or pledging of things moveable, that under any other circumstances than those in which the Colony has unhappily been involved it would not have been in my power to decline the unwelcome duty of advising her Majesty to disallow it. The same circumstances may, perhaps, furnish an apology for an enactment, tending so directly to given unwonted facilities for borrowing money, and increasing the evil of excessive credit, under the penalties of which the Colonists have so long and so severely laboured (quoted in Buck, 2006: 89).

The willingness to amend the law both by local designers and those in the parent country given NSW particular endowment set contributed to successful growth in that colony which may otherwise have been hampered by application of the repugnancy doctrine. Before discussing the nature of the property innovation introduced by the wool lien and stock mortgage some detail regarding NSW endowments with respect to climate, land, and labour that provided a comparative advantage in wool production is needed.

3. NSW endowments and wool production

NSW endowments were eminently suited to large-scale wool production. In the nineteenth century, the vagaries of the climate, land abundance, and labour scarcity were key factors in promoting the expansion of wool. These impacted both the organisation of production that relied on transhumance and the nature of land occupation that favoured large claims scattered over geographically dispersed areas. During the early period of expansion the

designers of the law that is, primarily the governor, tended to support the patterns of occupation and organisation that evolved out of custom (Harris, 2011).

3.1 Climate and wool

NSW has a Mediterranean climate with warm to hot summers and mild, wet winters. One important characteristic of the NSW climate particularly and Australia more broadly is that rainfall is low by world standards and highly variable from year to year. In NSW, apart from a strip of land from the coast to about 250 kilometres inland, on average, most of the state receives an annual rainfall of 500mm (20 inches) or below with some areas experiencing as little as 200mm (8 inches). This is similar in volume to the average annual rainfall on America's Great Plains and far West. In addition, Australian rivers exhibit a high coefficient variation of annual flow estimated at 1.12 compared with the world average of 0.33 and this applies to both large and small catchments (Finlayson and McMahon, 1998). As a result, the use of surface water as a substitute for rainfall is constrained. These climatic characteristics gave wool production an important advantage over permanent agriculture because sheep mobility provided some degree of insulation from the unpredictable climate (Harris, 2010). Land allocation policies notably, the license system (outlined in section 3.2) supported the practice of transhumance by allowing squatters to claim occupation rights to multiple parcels of land, averaging in total 34,000 acres (Roberts, 1935).

Transhumance, that is the movement of stock between pastures, permits the maintenance of a larger population of livestock than would otherwise be possible (Halstead, 1987). A larger livestock population also helps to mitigate risk associated with a variable climate. Moreover, squatters used their multiple land claims, including summer and winter properties, as substitutes further assisting them to reduce the risk associated with climate variability (Harris, 2010). Water rights were governed by riparian rights and these rights

were obtained by occupying land that came in contact with the water source. This gave squatters the right to access water on all parcels of land for which they had a license. Unlike prior appropriation, riparian rights were not governed by a 'use it or lose it' rule. This institution complimented the practice of transhumance (Harris, 2010).

The practice of large-scale transhumance was accompanied by the evolution of rules for travelling stock to decrease the costs of sheep mobility on private and common pastures. On private land occupied by a third party rules required drovers to give an owner 12 hours notice of entry to the property and the flock of sheep had to enter within 48 hours. Sheep were required to be moved a minimum distance of six miles in 24 hours (Johnson, 1994). On common stock routes in order to protect adjacent land holders sheep were not permitted to stray more than 0.5 miles on either side of the recognised route (Cameron and Spooner, 2010). Further, travelling stock were limited to a maximum of 520 sheep because it was believed that larger flocks would waste the pasture over which they travelled and stronger sheep would consume the bulk of the grass (Alston, et al., 2011; Curr, 2001: 21; Roberts, 1935).[8]

For squatters to take advantage of sheep mobility they not only had to be able to move flocks at low cost but also access water in alternate locations on their properties. There were costs associated with moving sheep between places because travelling could cause the death of weaker animals. However, if faced with extensive drought in one location these costs were significantly smaller than if the entire flock died. In the case of severe, widespread drought slaughtering could be used to reduce animal numbers and therefore,

[8] The same rule was applied to the number of sheep any one shepherd was to be responsible for. Curr (2001) argues this number limitation evolved because localities in which sheep first grazed in NSW were scrubby, creating the potential for large losses due to the inability of one shepherd to manage a larger flock. Nevertheless, this size limitation may have also resulted from the fact that early shepherds were convicts who had little incentive to prevent sheep losses (Alston, et al., 2011).

competition for scarce resources. In the following periods natural increases in stock numbers could be relied upon to replenish a flock. Moreover, there were benefits accruing from movement because this activity maintained the quality of merino wool, the dominant type of wool produced in NSW (Nugent and Sanchez, 1989).

In order for squatters' scattered land claims to be utilised as substitutes rainfall had to vary between parcels. The average correlation coefficient in NSW calculated by using data from seven pairs of rainfall stations between 1878 and 1910 was estimated at 0.77 (Harris, 2010).[9] Although the average correlation coefficient is high, because it is less than one spatial variation in rainfall over squatters' holdings did occur thereby making mobility an effective drought mitigation strategy. Studies by White (1992), Raby (in White, 1992), and Anderson (1970) confirm that mobility was an important activity used by squatters to reduce drought risks. Combined, large land holdings and sheep mobility made wool production a relatively drought tolerant activity remarkably suited to the vagaries of the NSW climate.

3.2 Land and wool

The expansion of wool production began in earnest from 1830 as individuals began to move flocks beyond the legal boundaries of settlement declared in 1827, referred to as the Nineteen Counties. The 1827 settlement limits were prompted by the BCO strategy of concentrating settlement around the original convict settlement at Sydney Cove. These constraints were motivated by two factors: 1) Wakefieldien notions of systematic colonisation (Alston, Harris and Mueller, 2011) and 2) the need to restrain the convict

[9] Harris (2010) determined appropriate pairings given the extent of squatters' holdings by calculating a distance range in square kilometres (km^2) using historical evidence. The lower bound was $64km^2$, equivalent to $25m^2$, the limitation imposed on squatters by the Occupation Act (1861). The upper bound, $138km^2$, was based on the average claim size as calculated by Roberts (1935). Rainfall stations that had complete records from the late nineteenth century were then obtained from the Australian Bureau of Meteorology (www.bom.gov.au/climate/data) and paired if they fell within this distance range.

element. Declaration of the Nineteen Counties meant that occupying land outside these boundaries was illegal and subject to prosecution. However, the settlement limits were more theoretical than practical, as the revenue constrained military government did not have sufficient troops to enforce them. Moreover, several key economic forces encouraged population movement to the frontier including: 1) the high cost of land within the boundaries, with an upset price of £1/acre (Burroughs, 1967); 2) increasing demand for and rising prices of Australian wool in Britain (Imlah, 1950; Shergold in Vamplew (ed.), 1987); and 3) the availability and suitability of pastoral land for wool production. Settlers illegally occupying land outside the Nineteen Counties were known as squatters.[10]

By 1834, while the BCO deemed continued occupation of frontier land illegal, it had become clear to the governor that it was impossible to enforce this rule and the economic return from wool production to the colony was high. In turn, Governor Bourke advised the BCO Secretary:

> already the Flocks and Herds of the Colonists spread themselves over a large proportion of this Southern Country…The excellence of the pastures…has induced the graziers to resort to it; and much of the fine Wool, which is exported to England, is taken from Sheep depastured on vacant Crown Land beyond the limits assigned for the location of Settlers. It is not the policy, nor would it be within the power of the government to prevent an occupation which produces so profitable a return (quoted in Shaw, 2003: 40).

This inability and unwillingness on the part of the governor to prevent squatting led the English parliament to legalise occupation via the *Squatting Act* (7 Wm. IV No. 4, 1836).[11] The legislation introduced annual licenses costing £10 and allowed individuals to occupy as much land as they pleased. Commissioners of Crown Lands (CCL) enforced the license system. Licenses reflected the unwillingness of both the English parliament and the colonial governor to sell frontier land outright. This was because by doing so they would limit the

[10] The terms squatters, graziers, and pastoralist are used interchangeably in the paper and all refer to the group of individuals who occupied NSW frontier land to depasture sheep.
[11] 'An act to restrain the unauthorized occupation of Crown Lands.'

revenue raised from future sales that could be used to fund migration. McMichael (1980) argues the profitability of squatters' wool production was precisely due to the absence of private property rights to land at the frontier. Further, one squatter giving evidence at a select committee enquiry in the 1840s stated that squatters were not interested in buying the land they occupied, even at 5 shillings an acre (Buck, 2006).[12]

The successful expansion of the wool industry can be attributed to several factors: 1) low land rents allowed NSW wool producers to be competitive on the world market (McMichael, 1980); 2) licenses allowed squatters to hold multiple parcels that aided the practice of transhumance as noted in section 3.1 and; 3) license conditions prevented large-scale production of agricultural goods on holdings. By limiting agricultural production on squatters' stations to the volume required to feed those residing on the station conflict between agriculture and pastoral production was reduced. This decreased the costs to squatters and the government of managing these conflicts and produced an outcome similar to Spain where the King acted as a zoning authority between the Mesta and agriculturalists to ensure compatibility of land use (Nugent and Sanchez, 1989).[13] Moreover, the climatic vagaries at the NSW frontier made pursuing permanent agriculture high cost in these locations thereby giving sheep grazing a comparative advantage.

3.3 Labour and wool

As noted in section 3.2 the reason for not selling frontier land outright during the 1830s was in order to retain the possibility of selling it at a later date in order to fund immigration. Prior to the gold rush in 1851, NSW was relatively labour scarce for several reasons: 1) Aboriginals that had survived initial contact were very few and, in many cases, hostile to the

[12] Land within the boundaries of settlement had a minimum upset price of £1/acre.
[13] The Mesta ('Honourable Assembly of the Mesta') was a shepherd and sheep owner's guild that existed in Spain from about 1500 to the mid-1830s (Nugent and Sanchez, 1989).

spread of squatting; 2) convict transportation was falling in popular sentiment both in the colony and England leading to political agitation for the removal of this form of criminal punishment and; 3) NSW 'competed' with other locations for British migrants. A very limited number of Aboriginals survived European contact on the eastern seaboard as a result of disease exposure and resource loss. Disease epidemics included small pox as well as the spread of venereal diseases that increased mortality within the existing Aboriginal population and reduced the fertility of those who survived (Butlin, 1993). Further, movement of the European population beyond the boundaries led to extensive resource loss for native Australians. This encroachment led to varying degrees of hostility toward Europeans that often manifested itself in violence (Butlin, 1982; Lester and Dussart, 2008; Millis, 1992; Reece, 1974; Shaw 1992, 2003).

In NSW, agitation against continuing transportation was associated with the desire to remove the convict 'stain' from the colony to increase its appeal to free settlers. Paralleling this, in England, the moral tide had turned against transportation. A major obstacle in attracting free settlers to NSW was the high cost of travel compared with alternative locations, particularly North America (McDonald and Shlomowitz, 1991). As a result, the bulk of free migration to NSW post- 1830 was made up of government assisted migrants the finance for which was taken out of the colony's land fund. Haines (1994) estimates that between 1831 and 1860 assisted migration comprised 56% of all free immigrants to Australia overall of which, NSW received 72%.

Labour scarcity posed some problems for squatters by creating high wages for those employed on squatting properties. The main forms of labour performed at these locations were shepherding and hut keeping. Shepherds protected sheep from predator attack, disease, and oversaw sheep movement. During the early years of frontier expansion

convicts, assigned by the governor to work for a particular squatter, undertook this occupation. This shifted the cost of feeding and clothing the prisoner to private individuals, reducing pressures on government stores. By the 1830s, as sheep numbers increased, there were too few convicts to fill the demand for shepherds so ticket-of-leave men and emancipists were employed (Pickard, 2008).[14] Hut keepers were individuals hired to enforce squatters' scattered land holdings from encroachment. Seasonal workers, primarily shearers, were also employed during the wool harvest. This suggests relatively low levels of labour were required for wool production that was suited to the realities of labour scarcity in post-1830 NSW. As Cashin and McDermott (2002: 250) aptly note, "for a land abundant, labour scarce, isolated region dependent on long distance transportation, wool was an ideal commodity."

Combined the three endowments outlined here, Mediterranean climate, abundant pastoral land, and scarce labour led wool production to have a comparative advantage over other types of production in nineteenth century NSW. Further, these endowments shaped political and economic institutions that favoured continued expansion of the wool industry. By 1842, 24 out of 36 Legislative Council members were elected but the right to vote and to stand for parliament were accompanied by strict property requirements. Squatters were permitted both to vote and be elected under property rules and, as a result, came to dominate the Council. Therefore, this group, alongside the governor and BCO Secretary became designers of the law in NSW and, in doing so, they behaved as instrumentalists as will be discussed in section 4.

[14] Tickets-of-leave were issued by the governor and allowed a convict to live within society but constrained their ability to move around the colony, their employment, and their ability to earn wages. A ticket holder was assigned to a particular district and employer. The employer was responsible only for the individual's rations and was not required to pay wages. Tickets-of-leave were invented by Governor King in 1801 (Kercher, 2003).

4. Instrumentalists and property innovations

As noted in section 2, instrumentalist lawmakers design legal rules that facilitate economic growth. In a colonial setting this would require efforts to ensure an institutional structure that supports expansion of sectors with a comparative advantage given the endowment set. As has been demonstrated in section 3, the endowments of NSW meant wool had a comparative advantage over other sectors and legal innovations were introduced that supported the growth in this industry. A critical area of change was in property law with the designers of law introducing innovations in the very concept of property that did not exist in English common law. The endowment set and the legal innovation prompted by them influenced economic institutions by determining how capital could be accessed in the colony.

4.1 Property law and land

First, in order to better understand why and how the wool lien and stock mortgage were property innovations, a brief reference to property law as it stood under English common law is needed. English law distinguished between two types of property: real and personal. The term 'real' referred to property that admitted a specific recovery at common law compared with 'personal' where actions could only be brought for compensation or damages (Buck, 2006). As a result, real property related to land that was immovable and personal property to all other goods that were moveable. Mortgages over the latter type of property had their origins in Roman law under the hypothec. A hypothec was a non-possessory chattel security in a moveable good. However, this law was not adopted in England so the potential for raising credit via this method was also unavailable in NSW. As a result, the only mechanism via which credit could be obtained was by mortgaging real property. In order to mortgage real property unencumbered title was required and in England, this was obtained via fee simple which was the dominant form of freehold land

ownership post-1660 (Buck, 2006).[15] For NSW pastoralists, one of the major drawbacks of English common law that permitted mortgaging only of real property (land) to access capital was the method by which they obtained rights to land.

On settlement of NSW in 1788 all land was claimed in the name of the Crown and the governor provided grants to free settlers. Squatters who occupied land at the frontier post-1830 did so, initially, without any legal right. The introduction of annual licenses in 1836 was not to restrain squatting but rather to ensure the Crown's rights were not superseded by claims of adverse possession. Licenses were enforceable against all parties but the Crown. The license system had several implications for pastoral sector investment, production methods, and access to capital: 1) the Crown could evict squatters at any time without compensation thereby reducing incentives to invest in the land; 2) because squatters were able to hold multiple licenses they could practice transhumance; and 3) licenses gave occupation rights only thereby constraining access to capital.

The disincentive to invest brought about by the possibility of eviction without compensation decreased the ability for squatters to reduce risks associated with variable rainfall by limiting investment in surface water substitutes such as dams and groundwater. However, the practice of transhumance underpinned by the lack of license restrictions as outlined in section 3.1, provided a viable alternative by which squatters could lessen the risk associated with climate variation. Transhumance not only permitted them to use alternative locations as substitutes but it also supported the maintenance of larger flocks compared to more sedentary forms of livestock husbandry. Moreover, the very nature of the NSW climate

[15] Fee simple was a break from the feudal structures of land holding that had dominated in England pre-1660 where the Crown claimed absolute ownership rights in land and gave individuals usage rights. Those individuals could then break up parts of their tenure rights and provide them to other individuals. Underpinning the feudal structure was the tenant's obligations to the Lord such as, payments for using the land equivalent to a tax or pledges to fight for the Lord to protect his land holdings.

meant there was economies of scale in wool production that favoured the occupation of vast tracts of land and the license system supported this production method.

Transhumance provided an important risk mitigation strategy for squatters but occupation rights under the license system did not give them ownership rights to the land so they could not mortgage that asset to raise capital. The implication was that during periods of economic downturn squatters would be unable to access additional funds to supplement their income and/or maintain flocks. In turn, they had limited protection from the boom-bust cycles that characterised the pastoral industry brought about by the extremely variable climate. Further, due to the workings of the 1842 *Imperial Land Sales Act* (5 and 6 Vic, c 36) that prevented land outside the Nineteen Counties from being given as freehold title there was no possibility that squatters could gain unencumbered titles that could be mortgaged.[16] The effects of this credit constraint on continued pastoral sector growth became magnified when depression hit the colony in the early 1840s.

4.2 The 1840s depression

Butlin (1953) provides a detailed analysis of the causes of the depression and this paragraph summarises the chain of events he outlines. It began with a slow down in expansion of the pastoral sector as well as rising costs of labour, equipment, and supplies. This led to bad returns for absent British investors that subsequently began to reduce the volume of capital entering the colony preceding the disastrous years of 1842 and 1843. An extended drought between 1838 and 1840 created more drags on the NSW economy with stock numbers falling and wheat yields and flour supplies dropping dramatically causing prices to increase. This was followed by a slump in commodity prices and losses in import markets. One major reason for the losses on import markets was the method by which imports were paid for.

[16] The full title of the act was: 'An act for regulation the sale of Waste land belonging to the Crown in the Australian colonies.'

Butlin (1953) notes that typically English trading firms would ship goods to local merchants with prices set in anticipation of demand and covered by bills drawn on consignees. However, by 1840 NSW merchants realised they would be unable to meet the prices on which the bills were based forcing them to compel payment of outstanding accounts. This was the first stage of the contraction and Butlin (1953: 321) goes on to state:

> Pressure for cash, once initiated, spread almost overnight, and merchants and traders were neither prepared to give new credit nor to wait for old debts; they in turn were pressed by banks and other lenders – the first sharp reduction in bank loans came early in 1841.

Widespread insolvencies followed that resulted in a significant contraction of British capital. These events were followed by a collapse in land sales that forced the government to draw on its bank deposits to fund immigration orders (Butlin, 1953; Fry 1973). The crisis that ensued was one of the most significant depressions in Australian history resulting in acute deflation of commodity and asset prices, unparalleled insolvencies, bank failures, and high unemployment (Decker, 2008). These events posed a major threat to the ongoing prosperity of the NSW economy. The credit crisis was more acute than it might otherwise have been because squatters lacked the ability to use the assets they owned to cover increasing operating costs and payments demanded by merchants. It was against this background that legislators as the designers of law could either opt to be instrumentalists and change existing laws for community prosperity or behave as formalists thereby following closely English law. If legislators behaved as formalists, the potential outcome was the complete collapse of the NSW economy.

As noted, graziers owned sheep but there was no legal instrument available for them to use their flocks or wool as security for short-term loans when the depression began. Moreover, bank statistics during the crisis show that while money supply contracted by 34% between 1840 and 1843, the holding of coin assets increased by 18% indicating an underinvestment of available bank capital (Decker, 2008). In other words, loanable funds were available but

squatters were unable to access them without a change in the law. This legal change was initiated by instrumentalist lawmakers with the introduction of the *Lien on Wool and Stock Mortgage Act* (7 Vic. No. 3, 1843).[17]

4.3 The preferable wool lien and stock mortgage

Lien and stock mortgage legislation signalled a fundamental break from the notion of property that existed in England by recognising that the traditional distinction between real and personal property did not exist in NSW (Buck, 2006). Land in the colony was only valued for the number of sheep it could graze. Therefore, the primary source of wealth was personal property that is, sheep. This distinction between the colony and the mother country was clearly stated by an 1845 Select Committee investigating the operation of the wool lien:

> With us sheep, cattle, and horses, as your Committee has before observed, form the principal or staple property of this colony, as fixed property is the principal or staple property of England, and ought therefore, in the opinion of your Committee, by analogy, have all the uses and incidents of fixed property here…that any state of the law that would prevent the freest use of them, would be an unwarranted interference with the rights of property, and as far as it impeded circulation would…be an injustice to the owner, and an injury to this community (Sydney Morning Herald, 1845: 2).

As noted in section 2.2, the BCO Secretary, Lord Stanley, received the proposed lien and stock mortgage legislation with hostility because it was repugnant to English law. In a letter to Governor Gipps, Stanley clearly states:

> while I am ready to admit, that embarrassments so overwhelming may have justified innovations otherwise indefensible, I must not distinctly deny, that they avoid any valid place for the a permanent departure from all those established rules, to which all theory and all experience alike lend their sanction. The disasters of New South Wales will ere have long passed away, but there will remain on the Colonial Statue Book, a law expressly authorising transactions which the law of England regards as affording the conclusive indication of fraud. It is a law which will place the society at the mercy of any dishonest borrowers, and will stimulate the speculative spirit which is so important to discourage (quoted in Buck, 2006: 89).

[17] 'An Act to give a preferable Lien on Wool from season to season and to make Mortgages of Sheep, Cattle and Horses valid without delivery to the Mortgagee.'

There were two main concerns the BCO Secretary had with the type of financial products being created under this new legislation: 1) as the quote above indicates, they would incite fraud and; 2) no other country in the Empire had any laws even remotely similar to what the NSW Legislative Council proposed. Concern that fraud would be encouraged arose out of the very nature of the innovation the lien and mortgage embodied. First, the lien allowed pastoralists to use future property as security. Consignment of the wool clip via a lien was effectively an assignment of title to future property because while the wool remained on the sheep's back it was not a separate good (Decker, 2008). At common law, no title valid against third parties could be given until the wool was unequivocally made a chattel by the act of severance (Sykes, 1959). Fraud could easily arise because a squatter could pledge his wool clip to a creditor and then sell the sheep. Once the sheep were sold to a third party the creditor would lose all rights to have the loan repaid.

Second, the mortgage involved the pledging of things moveable that could be destroyed or sold without a creditor's knowledge. This was compounded by the fact that many squatters were hundreds of miles from where their creditors resided, so monitoring to prevent fraud was costly. Members of the Legislative Council argued the potential for fraud was removed by a clause (s. 1) in the *Lien on Wool and Stock Mortgages Act* (1843) that required each lien and mortgage to be registered with register books held at the Supreme Court. As a result, it would be low cost for a potential buyer of sheep to determine if they had a mortgage or lien attached to them. The very basis of the register was to lower search costs so creditors were protected from fraud. Moreover, the register allowed creditors to verify, before money was advanced via lien how many, if any liens were already attached to a specific flock. The existence of earlier liens on the same flock of sheep would not prevent a creditor from advancing capital because the act permitted multiple liens against the same flock. However,

the register of preferable liens would ensure each creditor knew in what order their lien was to be paid if the borrower became insolvent.

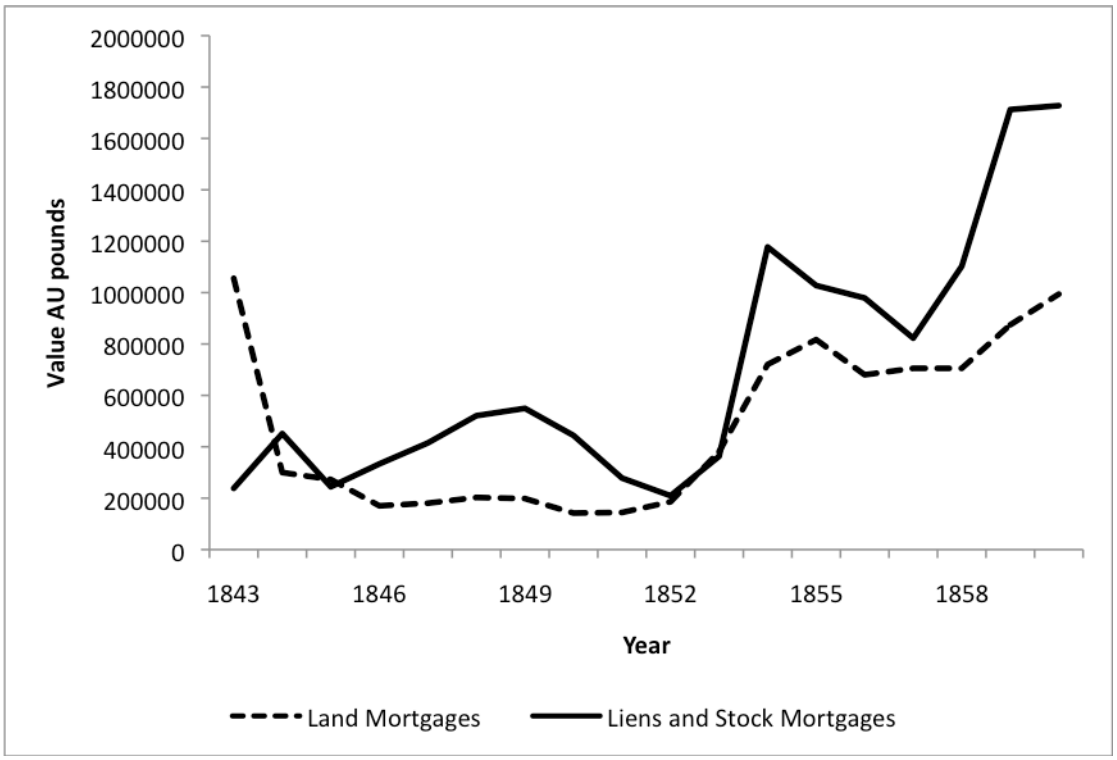
Members of the NSW Legislative Council defended the other concern, that the lien and stock mortgage was a complete break from Imperial commercial law rather than a modification or adaptation, with two arguments. First, they claimed the lien was analogous to a 'bottomry' bond in Admiralty law (Castles, 1982). Captains or owners of ships executed bottomry bonds obliging them to pay large premiums on the loaned funds should the ship return safely from its journey (Steckly, 2001). If the ship failed to complete the voyage the borrower's obligation would be extinguished. These bonds could be used in emergency situations, for example when a ship needed urgent repairs in a foreign port the captain could raise funds by pledging repayment using money raised from cargo sold once it reached it's destination. In this way, bottomry bonds were much like the Roman law hypothec as discussed in section 4.1. Second, they argued the stock mortgage was similar to credit instruments used in the West Indies where slaves, the principle asset of that country, could be mortgaged (Sydney Morning Herald, 1845). Neither the registration requirement, nor the bottomary bond and West Indies analogies, satisfied the BCO Secretary but, in light of the colony's economic circumstances, he permitted the act to remain on the NSW statute books for two years. When the act expired in 1845 it was renewed and, from that time until today has remained a permanent feature of NSW commercial law.[18]

The very fact the BCO Secretary recognised the lien and stock mortgage were repugnant to English law but did not advise the Crown to disallow the legislation permitting them is strong evidence that he, along with the local Legislative Council and governor acted as instrumentalists in the design of NSW law. Clearly, their aims were to further community

[18] The preferable wool lien also remains a permanent feature of the laws of all other Australian states and New Zealand.

prosperity and, in order to do so, they recognised that colonial circumstances, at times, required departure from English law. Combined, between 1843 and 1860 registered liens and stock mortgages in NSW were valued at close to £12.6 million (Butlin, 1953). This can be compared to the total mortgages for land in towns and country areas that, over the same period were valued at approximately £8.7 million (Butlin, 1953). In fact, as is illustrated in figure 1, for almost every year over the 1843 to 1860 period the total value of liens and stock mortgages outstripped that for mortgages of land in towns and country areas. In addition to these basic indicative statistics, it is possible to determine to what degree these instruments contributed not only to alleviating the colony's economic downturn but also short-run pastoral sector economic growth by undertaking a simple statistical analysis. The data, models, and results are presented in section 4.4.

Figure 1 The value of wool liens and stock mortgages compared with land mortgage values, 1843 – 1860



4.4 The lien and mortgage contribution to pastoral sector growth

The analysis uses lien data, the value of wool exports, and the number of sheep in NSW recorded in the Statistical Register (NSW Legislative Assembly) from 1843 to 1860. Data for pastoral sector GDP was obtained from Butlin, Ginswich, and Statham (1987). To determine the effect of the lien on pastoral sector GDP a simple OLS regression was estimated using the model below:

$$GDPpast_{t-1} = \beta liens_t + \beta woolx_t + \beta stock + \varepsilon_t \quad (1)$$

Where GDPpast is pastoral sector GDP lagged by one year (*t-1*); lien is the total annual dollar value of liens registered in the colony in year *t*; woolx is the annual monetary value of total wool exports from NSW in year *t*; stock is the number of sheep in the colony in year *t*; and ε is the usual error term. Using the augmented Dicky-Fuller test statistic initially all four variables were shown to have unit roots. Therefore, in order to make the data stationary first differenced values were used in the analysis.[19] The results are reported in table 1.

Table 1

Dependent variable	**Coefficient**	**p value**
lien	-0.000	0.884
woolx	-0.000	0.739
stock	0.073	0.139
R^2 = -0.021	Durbin-Waston = 1.72	

The results of this first model are surprising with no significant variables suggesting the lien itself did not contribute to economic growth in the pastoral sector. One interesting implication of this is that Governor Gipps' initial scepticism toward this method of stimulating growth in the pastoral sector was justified.[20] However, the results may also be

[19] The Augmented Dicky-Fuller test static for the first differenced variables are available from the author on request.

[20] In relation to the legislation Gipps noted in a letter to the British Colonial Office Secretary, "that no very salutary effect is anticipated from it by any party" (quoted in Butlin, 1953).

because of the way the lien and mortgage data are reported in the Statistical Register. Specifically, if a flock was subject to both a lien on the wool and a mortgage on the sheep data was recorded under mortgages only. Therefore, the data for liens alone may understate the value of this financial instrument leading to the unusual results in table 1. In turn, the results for the mortgage data may be bias upward which may lead to a stronger result for a model including that variable instead of liens and the following model has been estimated to determine if this is the case:

$$GDPpast_{t-1} = \beta mtgs_t + \beta woolx_t + \beta stock_t + \varepsilon_t \quad (2)$$

Where GDPpast is pastoral sector GDP lagged by one year (*t-1*); mtgs is the total annual dollar value of stock mortgages registered in year *t*; woolx is the annual monetary value of total wool exports from NSW in year *t*; stock is the number of sheep in the colony in year *t*; and ε is the usual error term. Much like the first model, the augmented Dicky-Fuller test statistic showed all four variables had unit roots so first differences were used in the regression. The results are reported in table 2. In this case, mortgages are positive and significant at the 5% level showing this financial instrument did contribute to growth in the pastoral sector over the period being analysed. Wool exports are not significant. Not surprisingly sheep numbers are also positive and significant at the 5% level.

Table 2

Dependent variable	**Coefficient**	**p value**
mtgs	0.001	0.013**
woolx	-0.000	0.169
stock	0.097	0.019**
Adjusted R^2 = 0.41	Durbin-Watson = 1.68	

**Significant at the 5% level.

Another model was tested adding mortgage and lien data together and running the regression with that variable (totalloans) in place of either liens or mortgages alone. The results have not been reported here but they were very similar to those reported in table 2. Moreover, two additional regressions were tested as falsification exercises where GDP in the construction sector was the dependent variable and the independent variables mirrored those in equations (1) and (2) above. The results of these tests are reported in appendix 1 and provide evidence to support the conclusion that the estimations for equations (1) and (2) are not spurious.

This suggests that, combined, these new financial instruments did contribute to short-run growth in the NSW pastoral sector. Further, it lends some support to the claim that statutory lawmakers acted as instrumentalists by not only introducing these property innovations but also continuing their operation to support pastoral sector expansion even after the economic downturn of the early 1840s had subsided. These legal innovations complimented the comparative advantage in wool production created by NSW endowments that is, the Mediterranean climate, abundant pastoral land, and labour scarcity as outlined in section 3.

5. Conclusion

This paper has examined the extent to which NSW lawmakers and the BCO Secretary could be labelled as instrumentalists in their design of law for a colony whose endowments diverged markedly from England. NSW endowments including an arid climate, large tracts of land suited to livestock grazing, and relative labour scarcity gave wool production a comparative advantage over other forms of agriculture. Climatic vagaries could be counteracted by pastoralists via the practice of transhumance that was underpinned by the use of licenses to occupy land. Transhumance also increased the quality of wool produced

by merino sheep and allowed squatters to maintain larger flocks than would be possible under other forms of livestock production. This practice allowed squatters to decrease somewhat the risks associated with the boom-bust cycles produced by variable weather conditions.

However, the land allocation system meant pastoralists were constrained in their ability to raise capital so that these cycles may have been more pronounced prior to the introduction of the wool lien and stock mortgage in 1843. Against the backdrop of depression in the 1840s local designers of law and the Secretary of the BCO recognised the constraint on capital in the pastoral industry posed a very real threat to it's future economic prosperity. Moreover, it was clear that the only form of assets owned by producers in that sector was sheep. As a result, NSW lawmakers introduced the wool lien and stock mortgage, both non-possessory chattel securities unknown in and repugnant to English law. The BCO Secretary, while recognising the law was repugnant opted not to advise the Crown to void the act and permitted it to come in to operation. The aim of this legal innovation was clearly to ensure recovery from the depression and, given NSW endowments, continued expansion of the pastoral sector as the key industry for colonial growth. The statistical analysis lends some supports to this argument by showing that at least in the case of the stock mortgage, a positive and significant affect on pastoral sector GDP. These results may have picked up some of the affects of the lien given if a mortgage and lien were taken out using the same flock as security this was recorded under mortgages in the Statistical Register. In turn, the evidence presented here strongly suggests that both English and local designers of law acted as instrumentalists by engaging in legal innovations that supported economic growth in the NSW pastoral sector.

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Appendix 1 Falsification tests

The two falsification equations estimated were:

$$GDPbuild_{t-1} = \beta liens_t + \beta woolx_t + \beta stock_t + \varepsilon_t \quad (3)$$

$$GDPbuild_{t-1} = \beta mtgs_t + \beta woolx_t + \beta stock_t + \varepsilon_t \quad (4)$$

Where GDPbuild is the construction industry's GDP lagged by one year (*t-1*); lien is the total annual dollar value of wool liens registered in year *t;* mtgs is the total annual dollar value of stock mortgages registered in year *t*; woolx is the annual monetary value of total wool exports from NSW in year *t*; stock is the number of sheep in the colony in year *t*; and ε is the usual error term. As in models (1) and (2) in section 4.4 all the variables had unit roots according to the augmented Dicky-Fuller test statistic so first differences were used in the analysis. The results are presented in tables 3 and 4. Both tables illustrate, the adjusted R2 for both models is negative and there are no significant variables. In addition, the coefficients are quite different from those presented in tables 1 and 2 (section 4.4). As a result it is possible to argue that findings for models (1) and (2) are reliable.

Table 3

Dependent variable	**Coefficient**	**p value**
liens	0.000	0.900
woolx	0.000	0.426
stock	-0.006	0.719
Adjusted R^2 = -0.09	Durbin-Watson = 1.25	

Table 4

Dependent variable	**Coefficient**	**p value**
mtgs	-0.000	0.825
woolx	0.000	0.230
stock	-0.007	0.683
Adjusted R^2 = -0.09	Durbin-Watson = 1.23	