ABSTRACT:

This paper considers conceptions of A.C. Pigou as a “Marshallian” economist which have appeared in the literature. The specific objective of this paper is to identify differing perceptions of Pigou as a Marshallian by: identifying the key areas where scholars have perceived a certain continuity between Pigou’s work and Marshallian thought; identifying the key areas where scholars have perceived a certain discontinuity between Pigou’s work and Marshallian thought; and to reflect more systematically on the major characteristics scholars have attributed to the Cambridge School in its Marshallian form.
1. Introduction

This paper examines the differing perceptions of Pigou as a Marshallian that have appeared in HET literature. It does so by identifying the key areas of economics where scholars have perceived: a certain continuity between Pigou’s work and Marshallian thought (section 2); and a certain discontinuity between Pigou’s work and Marshallian thought (section 3). From a strictly rational perspective, an almost polar difference appears to have developed on the question of whether Pigou was a loyal Marshallian. In view of this, reflection is given in this paper to the major characteristics that scholars have attributed to the Cambridge School in its Marshallian form, together with some reflection on how those characteristics have evolved since 1925 (section 4). The study finds that the evolution in the emphasis given to particular attributes that scholars regard as Marshallian, especially with regard to changes in emphasis that became significantly more prominent from the mid-1980s, represents a significant reason for the more fundamental differences in the interpretation of Pigou’s Marshallian pedigree (section 5).

2. Perceptions of Pigou’ Continuity with Marshallian Thought

Pigou’s lineage as a Marshallian may be considered to have commenced with his undergraduate studies at Cambridge when he was directed and mentored by Alfred Marshall during his studies in the Moral Sciences Tripos. But by Pigou’s own record, he already had some exposure to Marshall’s economic thought before commencing the Moral Tripos, having read both *The Principles of Economics* and *The Economics of Industry* (as well as a number of other books on economic subjects by other authors) (Marshall, circa 1888-1889). Pigou’s training in Marshallian economics during this time can be identified with contentions that an individual’s membership in academic communities will consist of some form of historical or didactic “apprenticeship” (for example, as contended by Fleck 1935). It is suffice here to note that Marshall’s early stated aspirations for the promise of Pigou’s talents in economics, his mentoring and tutelage of Pigou, the arrangement of Pigou’s teaching appointments and payment of Pigou’s stipend from his personal funds, and his eventual endorsement of, and behaviour during, the process of Pigou’s succession to the Chair of Political Economy at Cambridge, are testimony that he considered Pigou “like-minded”.

L.L. Price’s (1904) observation that Pigou had an “almost filial” respect for the “utterances of Professor Marshall” has been invoked as an early contemporaneous example of the perception of Pigou as having emerged as a coadjutor of Marshallian economic thought (for
example see, Koot & Rashid, 1996; Reisman, 1990). Harry G. Johnson (1960, p. 154) similarly refers to Pigou’s “filial devotion” being evident in his compilation book *Memorials of Alfred Marshall* published in 1925. By 1936 when Keynes’s own “struggle of escape from habitual modes of thought and expression” was presented in *The General Theory*, it was Pigou’s theory of unemployment which was held up as “the only attempt with which I am acquainted to write down the classical theory of unemployment, precisely” (1936, p. 279) and which he would argue seemed “to get out of the Classical Theory all that can be got out of it” (1936, p. 260). Indeed, Pigou’s allegiance to Marshallian economics has been argued as having formed a dividing point at Cambridge when Keynes’s own mode of thought became adopted by the younger Cambridge economists including Kahn, Austin and Joan Robinson, Sraffa and Mead (Aslanbeigui & Oakes, 2002).

Pigou’s adherence to Marshallian thought is vividly recalled later by his former student, E. A. G. Robinson’s (1968, p. 91) –

“It was primarily through Pigou that the Marshallian tradition was handed down […] To the end Pigou remained a devoted and almost uncritical pupil of Marshall’s, indeed an almost idolatrous worshipper. It was Pigou, more than any other, who brought up a generation of Cambridge economists in the conviction that (in his often-repeated words) ‘it’s all in Marshall’ and the belief that if they were in error, it was because they had misunderstood Marshall or had overlooked some essential passage in the holy writ’.

Later authors have subsequently employed language emphasising Pigou’s Marshallian spirit using phrases such as “the embodiment of Marshallian [influence]” (Coats, 1967, p. 709; Solow, 1980, p. 3), “pre-eminently a disciple of Marshall”, and “[a] theorist in the Marshallian tradition” (Collard, 2002, p. xi and xvi). This stream of literature emphasises Pigou as an extender and developer of Marshallian economic thought. Collard (1981, p. 117), for example, points to Pigou’s habit of “being able to absorb new ideas into his own thinking” which lent itself to Pigou’s ability to contribute innovative theoretical insights. Along a similar vein, studies by Steven G. Medema (2009) and various essays appearing in in Backhouse’s and Nishizawa’s (2010) compilation study have considered Pigou’s contributions emerging from the Cambridge school in a broader setting of traditions in welfare economics. These studies have primarily focused on Pigou’s contributions to economics as extensions of the Marshallian “spirit” and theoretical framework. In considering these studies, we might ask what “spirit” or approach of Marshall’s economic thought remained inherent in Pigou throughout his working
life? This will be examined in the next section which will consider perceptions of Pigou’s continuity with Marshallian thought.

Conceptions of Pigou’s continuity with Marshallian thought can be broadly considered by examining those aspects which are generally acknowledge in the literature as being a commonality between the two scholars in terms of their shared views on problems of common interest. The following sections will consider Marshall’s and Pigou’s alignment in terms of their respective views as to the purpose of economic knowledge, the boundaries of economic knowledge, and how economic knowledge informed human activity.

**The Purpose of Economic Science**

Both Marshall and Pigou had come to study economics because they wanted to contribute toward the diminishment of poverty and the improvement in the quality of human lives. Marshall’s sentiments as to the purpose of economic science is evident his inaugural speech as Professor of Political Economy at Cambridge in 1885, expressing a desire to attract and train Cambridge students of economics that had –

“... cool heads and warm hearts, willing to give some at least of their best powers to grappling with the social suffering around them; resolved not to rest content till they have done what in them lies to discover how far it is possible to open up to all the material means of a refined and noble life” (Marshall 1885, p. 57).

To Marshall, economics was a vehicle via which he could contribute to improving the quality of life for mankind. The provision of improved material circumstance was for Marshall a means to improve human character and the society which humans share. Indeed, this will be argued to be one of the primary characteristic of the Marshallian approach to economic thought.

In comparison to Marshall’s sentiments we can consider Maloney’s (1976) reference to Pigou’s (1908, p.8) inaugural lecture as Professor of Political Economy as being “impeccably Marshallian”. Pigou commences this lecture by expressing his gratitude to Marshall for inspiring his study in economics and stating that it would be his “earnest endeavour to carry on and develop [...] the work that he has begun, and to pass on to others what I have learnt from him”. Pigou, however, also exhibits his own particular perspectives in the lecture concerning the place of economic science in furnishing knowledge. Pigou makes, for example, the distinction between things that are good in themselves and things that are means to good, and the relatedness of
“good” to the states of consciousness of sentient beings: “the attainment of any particular sort of knowledge can only be good – or bad – so far as it affects such states of consciousness”.\(^1\) Pigou’s distinction follows John Neville Keynes’s (1999 [1890], p. 30) \(^2\) earlier differentiation of the value of knowledge in the pursuit of science in two ways. First, knowledge may have “light-bearing” value by entering into the consciousness of an individual, perhaps undergoing some form of modification “by the act of its other constituents”, and by directly altering the value or goodness of that consciousness. Second, knowledge may have “fruit-bearing” value by introducing changes in the environment (the example Pigou provides in this case is an increase in the provision of abundant food) which might indirectly alter the value or goodness of conscious lives that are affected. Pigou’s consideration of states of consciousness in this respect moves between a measured assessment of both subjective and objective positions. Pigou finds value in both positions in economic science, and welcomes students who seek economic knowledge for both its light-bearing and fruit-bearing capacities, but it is the fruit-bearing capacities of the science that can help fellow-men, that for the purposes of Economic Science, Pigou gives the greater weight too.

Pigou’s distinction outlined above represents a point of difference between Pigou and Marshall on this matter. As Keynes (1924, pp. 318-320) recalled, Marshall had little interest in the metaphysical pursuit of knowledge\(^3\), although several scholars have underlined the importance of Marshall’s studies of philosophy and psychology during his early intellectual development to the later development of his economic thought (Cook, 2009; P. Groenewegen, 1995; Raffaelli, 1994). Pigou, as we shall see in proceeding sections, retained an ongoing interest in metaphysical issues throughout his life arising from interests in the nature of consciousness, and how the consciousness of sentient beings related to economic behaviour and phenomenon. The nature of consciousness had also been explored by Marshall (1994a, 1994b), but the philosophical influences impacting Marshall during his early intellectual development were being challenged.

\(^1\) A point made by Pigou also in his collected philosophical essays *The Trouble with Theism* (See Pigou 1908, “The Problem of Good”).
\(^2\) J.N. Keynes (1999[1891], p 271) follows Francis Bacon’s (*Novum Organum*, Book i., Aph. 70) analogy whose distinction between “Light” and “Fruit” are drawn from the Bible’s New Testament (for example, see St. Paul’s letters to the Ephesians, Ephesians 5-10).
\(^3\) See also Coase’s (1975) comments on Marshall’s aversion to philosophical economics and Whitaker’s (1986, p. 184) comment that “Marshall had no great profundity as a philosopher of science and had little patience with metaphysics”.

4
during the years of Pigou’s foundational studies as a Historical and Moral Sciences student at Cambridge.

Pigou’s later poetic pronunciations, however, of economic science’s purpose, appearing in the first and subsequent editions to his *Economics of Welfare*, indicates a clear continuity with Marshall’s primary sentiment with regard to the purpose of economic science over the course of his working life –

“… [I]t is not wonder, but rather the social enthusiasm which results from the sordidness of mean streets and the joylessness of withered lives, that is the beginning of economic science” (1920, p. 5).

So although there may have been subtle differences in the way the two scholars related what was good for conscious sentient beings to the attainment of economic knowledge, both Marshall and Pigou shared a spirit that such knowledge was an instrument for alleviating poverty and improving the quality of human lives.

**Ethics and the Domain of Economic Science**

In the early 19th century the classical economist Nassau Senior grappled with criticisms of Political Economy which drew upon a multitude of subjects including ethics, politics, legislation and other sciences. In his time, Senior perceived the reputation of economic theory under threat by having it confused with particular (contentious) policies such as *laissez-faire*. This led Senior to differentiate the ‘science’ (theory) of political economy from the ‘art’ of political economy (its application). In trying to clarify the role of the economist Senior argued that when the economist provided advice he ‘wanders from science into art, generally the art of morality or the art of government’ and therefore ceased to be scientific (Coats, 1996, p. 83-84). John Neville Keynes (1999 [1890]) later expanded on Senior’s stance and delineated the role of economics in three ways in *The Scope and Method of Political Economy*: positive economy (the study of the way the economy works); normative economy (the study of how things ought to be); and the art of economy (how economic theory is applied). The point is that ethics, although entwined in the sociological elements of economics, had a history of being problematic in the development of value free scientific economics.

Both Marshall and Pigou, whose economic thought arose from these broader traditions concerning the domain of science, expressed similar views as to where economic science stood in relation to ethics. While promoting the discipline of economics as a positive science, Marshall
viewed ethics as “the master” and economics as “a handmaid of ethics and servant of practice” (Marshall 1893, p. 389). For Marshall the ends were what were “good” for the individual and for society. Indeed, in the opening introduction to his early work on industrial peace, Pigou (1905, pp. 3-5) enunciates a clear echo of Marshall’s sentiments concerning the objective pursuit of economic knowledge to inform those ends which were “good” regardless of metaphysical and political controversy. Although Pigou expressed a more nuanced view of “good”, for reasons we will consider later, he is cited in the literature (Champernowne 1959; Collard 1981; Aslanbeigui 2009) as sharing Marshall’s position in this regard. Pigou, however, introduced the term “total welfare” as the ethical ends, rather than happiness or satisfaction, theorising that, increases in total welfare probabilistically led to similar increases in economic welfare, with the associated economic concept of utility having the advantage of analytical clarity because it is directly associated with the “measuring rod of money”. Although Pigou’s distinction accorded with Marshall’s general conception of wealth, not as an end in itself but only a means to an end which was the promotion of human welfare, his explicit distinction facilitated a more formal analytical study of economic welfare in a general equilibrium setting drawing on Marshall’s conception of the National Dividend.

A second broad continuity which Pigou had in keeping with Alfred Marshall lies in a commonality of ethical precepts which underlay their contributions to economic science. Marshall and Pigou emerged from the late utilitarian tradition in British political economy which held broad normative ethical views whereby the propensity to undertake moral action is actively cultivated - such as Mill’s view on the importance of rules and moral obligation articulated in Utilitarianism (1863) ⁴ as well as Sidgwick’s careful reflections that qualified the scope of utilitarian ethics in his The Method of Ethics (1874) - which provided for a more nuanced interpretation of Bentham’s (1907 [1780]) original motto: the “greatest amount of good for the greatest number”. Nevertheless, utilitarianism in that sense still remains essentially consequentialist; an action will be considered morally right if the consequences of that action are favourable to everyone.⁵ The normative ethical position of consequentialism provided both Marshall and Pigou a basis for analysing economic welfare and provided a cornerstone for the development of policy formation. But the utilitarianism emerging from Marshall’s and Pigou’s respective writings did

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⁴ Mill’s work first appeared as an essay published as a series of three articles in Fraser’s Magazine in 1861; the articles were collected and reprinted as a single book in 1863.

⁵ Utilitarian consequentialism is distinct from two other broad approaches in normative ethics, virtue ethics and deontology. The former based on theories which posit that the right kind of action is informed by the moral development of character, and the latter developed from notions of moral duty or obligation.
not emerge *ex nihilo*. Rather both scholars’ thought was influenced by the broad intellectual traditions of utilitarianism and empiricism that they had both inherited but, which had been shaped by different intellectual milieux during their foundational intellectual development. It is the differences in, and comparison between, the intellectual milieux of Marshall and Pigou which is relatively less explored in the literature to account for differences between the two scholars economic thought.

Utilitarianism in the second half of the 19th century was not a singular thing but had developed, as Boucher and Vincent (2012, p. 31) so aptly describe, as “a hydra-headed creature with deep and diverse allegiance” as it was shaped by various socio-political and intellectual forces over the course of time. Marshall’s views on utilitarianism had developed during a period of marked intellectual and social flux. There was strong and persisting methodological disputation between the intuitionist and empirical schools throughout the 19th century, and methodological disputation during the time of Marshall’s foundational intellectual development during the late 1860s and early 1870s was marked. Marshall’s foundational intellectual development also coincided with the resounding impact of discoveries and advances in both the physical and biological sciences. This included the development of Darwin’s and Spencer’s theories of evolution which shook the religious and spiritual foundations of Marshall’s generation. The impacts of these scientific discoveries coincident with the social dislocation arising from industrialism led to intellectual responses countering the increasing emphasis on naturalism at the expense of conceptions of human spirituality, on one hand, and the individualism and egoism inherent in utilitarianism, on the other. These responses developed as two distinct and often complementary intellectual forces; the British Idealist Movement and the literary works associated with the romantic era (sometimes also referred to as romanticism or the Romantic Movement).

British idealism emerged during the last third of the 19th century pervading intellectual discourse and becoming a force for social reform. At Cambridge, the utilitarianism arrived at by Henry Sidgwick in his *Method of Ethics* (1874) was a modulating and conciliatory influence, seeking to retain the usefulness of utilitarianism but relieve the relative stalemate arising between opposing philosophical and methodological schools. Sidgwick’s influence upon both Marshall’s and Pigou’s economic is highlighted by O’Donnell (1974), Backhouse (2006), and the series of essays appearing in Backhouse and Nishizawa (2010). What becomes immediately evident, however, is that Pigou, entering Cambridge as a young graduate at the end of the 19th century, is situated in a very different contextual setting from that which confronted Marshall some years
earlier during the development of his foundational thought. Most significantly, Pigou’s serious intellectual development, in contrast to Marshall, occurred in the shadow of the idealist movement, which had already reached its height, and in the shadow of Sidgwick’s modulation of utilitarianism in the face of broad intellectual and social challenges. Pigou too, would be influenced by G.E. Moore’s and Russell Bertrand’s philosophical rebellion against the pervading Hegelianism in the opening years of the 20th Century. Moore (1903) criticising ethical notions hitherto developed as suffering from what he coined “the naturalistic fallacy”. But as Backhouse (2006) and Yamazaki (2008) point out, Pigou, while accepting Moore’s intuition of Good, developed his economic thought by defending Sidgwick’s convictions concerning the usefulness of utilitarianism as a theory informing (normative) ethical action. Consequently, although Marshall’s and Pigou’s economic thought was informed by ethical positions broadly considered utilitarian, differences in their intellectual milieu would most likely have led to degrees of difference between their respective notions of utilitarianism.

3. Perceptions of Pigou’s Discontinuity with Marshallian Thought

Joseph Schumpeter (1996 [1954]) generally asserts that Pigou “faithfully developed Marshall’s teachings”, however, he highlights three particular exceptions:

(i) Pigou’s lack of development of the Marshallian concept of consumer surplus;

(ii) Pigou’s monetary theory, based upon Marshall’s teaching, assessed together with that of Keynes and Robertson as having developed along their own lines; and

(iii) Pigou’s introduction of the equilibrium firm as a clear departure from Marshall’s modally representative firm in industry.

With regard to Schumpeter’s first point, McLure (2012) considers Pigou’s broad consistency with the Marshallian notion of consumer surplus which Pigou used to develop his externality analysis. This development is evident in Pigou’s Economic Journal article “Producers’ and Consumers’ Surplus” (Pigou, 1910). The consideration of Marshall’s notion of surplus examined by Pigou in this early paper laid the foundation of his concept of externalities underlying his seminal work Wealth and Welfare which appeared two years later. Medema (2010, p. 45) also broadly presents Pigou’s welfare analysis as emerging from his utilization of the concept of the margin, “so central to the Marshallian analytical system”, but also drawing upon Sidgwick’s consideration of the desirability or otherwise of the outcomes of free competition in societies. In contrast, Boianovskiy’s (2014) recent consideration of the Cambridge approach to
utility and welfare examines Pigou’s adaptation of Marshall’s discrete consumer’s surplus analysis, by employing marginal analysis and suggests a point of discontinuity with Marshallian thought. This suggestion is invoked first, by pointing to Myint’s (1948, chapter 10) argument that there were two (not just one) Cambridge schools of welfare economics; and second, by describing Robertson’s analyses concerning welfare as having “remained faithful” to Marshall’s approach, going as far to differentiate “the Marshall-Robertson version of Cambridge welfare economics” compared to the welfare economics developed by Pigou (Boiansovsky 2014, pp. 970, 977).

Both Myint’s and Boianovsky’s assessments might more broadly be considered a differentiation based upon Marshall’s and Pigou’s employment of models, and the respective degree to which their models approximated reality. Myint notes, for example, similarities in Marshall’s and Pigou’s approaches to welfare analyses which he argues were “constructed with an eye for practical application than for logical stringency and elegance” (p. 194), and finds Pigou’s marginal social product analysis of “great interest” due to the fact that it represents “a confluence between the two great streams of thought, viz. the Continental general optimum approach and the English Neo-classical approach” (p.197). Myint notes, that in this respect, Marshall’s and Pigou’s approaches are in some way complementary. The complementary aspect of Marshall’s and Pigou’s approaches arises if we consider Pigou’s analysis as a methodological adaptation moving towards a broader macro or aggregative economic analysis. In the case of his welfare analysis, the direction of welfare gains (losses) is clearly developed upon Marshall’s (1938 [1920], p. 80-81) reflection on the national income (or dividend) as a measure of general economic prosperity. This approach is correlative to Marshall’s surplus analysis when complexities associated with fixed costs are set aside, but when the complexities of fixed costs are introduced (internal and external returns to firms and industries) Pigou’s analysis contains errors, a point that Boiansvsky (2014) correctly highlights in his discussion of Cambridge approaches to utility and welfare. Pigou’s errors arise partly because his various degrees of (industry) aggregation were effectively undertaken on the basis that costs are variable and amendable to aggregated marginal analysis, which overlooks the possibility of individual producers’ output being constrained by equilibrium corner solutions due discontinuities related to fixed costs. Nevertheless, Marshall’s and Pigou’s approaches are seen by Myint’s in a complementary light, providing a perspective of viewing Pigou’s approach as an adaptation of, and based upon, Marshall’s economic thought.
Similarly, Schumpeter’s second point cannot be considered as reflecting a major discontinuity of Pigou with the Marshallian thought *per se*. Rather, Pigou, Keynes and Robertson can each be seen as developing their lines of thought on monetary economics upon a foundation which had emerged from Marshall’s oral traditions. This is a view highlighted by Pigou himself in a letter written to Joan Robinson in the summer of 1939. Pigou points out to Robinson that the differences in Cambridge theorising concerning money was a “matter of degree” and defended the continuity of theory between Marshall’s views and those which had been developed by Robertson and Keynes; Pigou noted Marshall’s regard of money merely as a *veil of all points of views* rather than simply a *veil* (Letter from Pigou to Joan Robinson, 1939 as cited in Naldi 2005, p.340).

It is the third of Schumpeter’s exceptions that has resonated so strongly with historians of thought in recent years, though the origins of this concern have a history in their own right. After Piero Sraffa showed Krishna Bharadwaj Marshall’s personal copy of *Wealth and Welfare*, Bharadwaj’s (1972) published Marshall’s annotations from that book which make it quite clear that, in Marshall’s judgement, Pigou’s analysis took the statical method too far. This highlights a contrast between Marshall and Pigou which implies two things: first, Marshall’s vision of the evolutionary nature of economic activity and behaviour was not embraced by Pigou; and second, the “tools” of static analysis in economic science were embraced by Pigou more so than by Marshall. Considerations of perceptions of Pigou as a Marshallian in regards to these two issues which have appeared in the literature are considered in the following sub-sections.

**Marshall’s Evolutionary Economics**

Marshall viewed the world as a complex, organic and dynamic system. Leijonhufvud (2006) describes Marshall’s view of the economy as adaptive and evolutionary and argues that the techniques of mathematics in Marshall’s time limited his ability to formalise such a system theoretically. It has also been argued that Marshall used equilibrium merely as an analogy, the strength of which lay in its practical value of helping to explain the mutual nature of causation in social phenomena, but that Marshall remained acutely aware that ‘*analogies may help one into the saddle, but are encumbrances on a long journey*’ (as cited in Dardi, 2006, p.215). But as Neil Hart (2013, p. 23) points out, Marshall’s use of analogies were rather subtle and related more appropriately to “modes of thinking”. Marshall makes his position clear in his essay entitled “Mechanical and Biological Analogies in Economics”:
“[...] in the later stages of economics, when we are approaching nearly to the conditions of life, biological analogies are to be preferred to mechanical, other things being equal; the mechanical analogy is apt to be the more definite and vivid; the analogy, for instance, of a satellite which is moving around a planet, which is itself moving around a centre, is helpful for special purposes, even in the advanced stages of many economic problems; and wherever it is helpful it should be used. But as the science reaches its highest work such occasions become rarer and rarer and the tone becomes more and more that of a biological science.

(Marshall 1898, PP. 317-18)

Marshall’s intent, rather, was finding a means to properly relate his perspective of the movement (or dynamical process) of human economic behaviour to his audience, but for the purposes of analysis, the statical method was a useful and essential “tool of thought” in examining economic behaviour (although certainly not the only tool).

Renewed interest in evolutionary and the economics of industry in the later part of the 20th century coincided with interest in this particular aspect of the economics of Marshall. Although Foss (1991) notes the general academic acknowledgment of Marshall’s interest in the evolutionary biology of his day, he argues that it is somewhat more controversial with regards to the exact status and role of evolutionary reasoning in Marshall’s thought. He finds an interpretive spectrum placing Loasby (1989) at one end, for his claim that Marshall’s theorising was indeed genuinely evolutionary in nature, and A.L. Levine (1980) at the other end, for his “open irritation over Marshall’s ‘biological folklore’, ‘fantasia’ and near-mystique” (as cited in Foss, 1991, p. 66). Foster (2006) argues, however, that Marshall, in realising comparative static theorizing is timeless in construction, did not negate the importance of history or institutions but rather placed this aside in order to fulfil his primary goal of promulgating an analytical approach to economics. In his recent study of Marshall’s philosophical development, Cook (2009) stresses the importance of Hegelian concepts of history on Marshall’s perception of evolution. Metcalfe (2006, p. 651) points out that there are two evolutionary impacts which shaped Marshall’s work. The first was devoted to Marshall’s development of an organic view of economic change; the second concerned the influence of evolutionary thought on the adaptive, variation, and selection based approach that Marshall applied to his study of industrial competition and development.

Over the course of his working life, Pigou’s adaptations of Marshall’s frameworks often adjusted the way that issues related to time were accommodated within, or in relation to, largely static analysis. This is most critically observed in the debates on the analytical meaning and
empirical significance of Marshall’s treatment of industry costs (Clapham, 1922a, 1922b; Pigou, 1922; Pigou & Robertson, 1924; Young, 1913). Marshall had considered the limitations of statical assumptions in economic analysis with regards to increasing return in appendix H of the *Principles* (Marshall, [1890] 1961, p. 664), which is developed around the concept of a representative firm that is not an actual firm but a notional firm that incurs the normal expenses of production of a good. This long average is representative the distribution of firms at its current point of evolution. Allyn Young (1913) in his otherwise appreciative review of Pigou’s *Wealth and Welfare*, critiqued Pigou’s aggregate analysis of industries with increasing returns from which Pigou had concluded that taxes and bounties could be considered for industries that do not exhibit constant returns to scale is, in part, a criticism of Pigou’s aggregation of production across the market as a whole in his analysis of increasing and decreasing return for not taking into account the constraints associated with various fixed costs in firms within the industry. Pigou’s (1913, p. 20) early defence against Young’s criticism was to argue that “increasing returns in the market as a whole does not imply its presence in parts”. However, in the wake of Piero Sraffa’s (1926) critical analysis that suggested that Marshallian increasing and decreasing returns were incompatible with free competition, Pigou introduced the concept of the equilibrium firm as an analytic device in his *Economic Journal* article “An Analysis of Supply” (1928). Like Marshall’s representative firm, Pigou’s equilibrium firm reveals constant output when industry output is constant; and its unit cost of output that is the same as the unit cost of output for the industry; but, unlike Marshall’s representative firm, the characteristic of representativeness with respect to size is left out (Newman 1960, p.591). In other words, Pigou’s notion of the equilibrium firm abstracts entirely away from the idea of the size of a firm, whereas for Marshall, the representative firm reveals a characteristic of size that is given by representativeness relative to some evolutionarily industry distribution of firms.

Foss (1991), Hart (2012, p. 12, p. 102) and Raffaelli (2004) have argued that the replacement of Marshall’s representative firm with Pigou’s abstracted equilibrium firm effectively suppressed the evolutionary aspects of Marshall’s economic thought and the realism Marshall had sought in the more nuanced propositions embodied in the his representative firm. Hart (2003a) goes as far to argue that Marshall was in fact not a Marshallian as his heirs and students (the “Marshallians”) evaded his problem of reconciling evolutionary and dynamic aspects in his economic modelling via the concept of the representative firm, the Marshallians

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6 There is a similarity between Young’s published, and Marshall’s unpublished (Bharadwaj 1972), concerns with Pigou’s *Wealth and Welfare*. 
instead “constricting the industrial organization process so as to render the analysis amenable to static equilibrium conditions” (p. 176). Similarly, Peter Groenwegen (1995, p. 757), in his extensive biography of Marshall, considers Pigou’s replacement of Marshall’s representative firm with the equilibrium firm as a departing from Marshall’s “legacy”. However, this charge against Pigou has to be considered in some further light given Pigou’s studies and interest in history, his concerns for future generations evident in his economic works, and his understanding of the dynamic nature of economic problems and realisation that economists hold ideas that move through time. McLure (2013, p. 270-71), for example, suggests Pigou’s early awareness of the analytical complexities inherent in non-constant returns in his history dissertation submitted for his Fellowship at Kings in 1901, “The Causes and Effects of Change in the Relative Values of Agricultural Produce in the United Kingdom during the Last Fifty Years”. Although McLure notes that Pigou’s setting aside of increasing returns in his analysis of commodity values, although not entirely unreasonable in the analysis of agriculture, did not account for the impact of increasing returns in industries that produced farm machinery and transportation on agricultural values. The point is that Pigou did not solely rely on analytical analysis in order to theorise upon economic realities. The statistical interdependencies between supply and demand over time linking history to theory were also important, as was the use of personal intuition and common sense.

Equilibrium, formalism and Welfare

Pigou’s analytical formalism has also been contrasted with Marshall’s plurality of method and distrust of excessive use of mathematics in economic reasoning. Clapham (1922b), we recall, was an early critic of Pigou’s increasing reliance on abstract theoretical analytics without its relatedness with historical data, although, of course, Clapham was similarly critical of Marshall. Keynes (1936, p. 275) also levelled claims at Pigou’s formalist approach in The Theory of Unemployment (1933) finding it an illustration of “the pitfalls of a pseudo-mathematical method”. Other contemporaries associated Pigou’s The Theory of Unemployment as marking Pigou’s endorsement of the mathematical method to the economics profession in general (Opie, 1935). Robertson (1950) singled out Pigou’s The Economics of Welfare (1920) appendix III as an example of “loyal but faithless Marshallian[s] who multiplied and sharpened, still for the study of competition, tools which the old man had left relatively few and blunt”. Raffaelli (2004, p. 214) goes as far to suggest that Pigou’s election to the chair of political economy marked a shift at Cambridge “towards formalisation, abstraction and stationery equilibrium”.

13
In a vein similar to Myint’s (1948) and Boianovsky’s (2014) considerations of the development of Cambridge welfare economics, Caldari and Masini (2011, p. 730) argue that fundamental differences between Marshall’s and Pigou’s approaches in welfare analysis can be observed. They place, however, a much greater emphasis on Pigou’s formalisation of economic theory arguing that Pigou’s “mechanistic determinism in applying analytical models” had limited ability to tackle economic welfare problems and suggest that Pigou only gave lip-service to Marshall’s “non-deterministic approach”. This argument seems somewhat overstated and perhaps misplaced. Marshall’s approach is more correctly viewed as a synthetic; Marshall’s development of the analytical devices of rent/surplus in a partial equilibrium setting is deterministic (and possibly overly determinate). McLure’s (2012) also counters that the conclusions made by Caldari and Masini (2011) exaggerate the significance of inconsistencies because Pigou distinguished economic welfare (a material notion) from total welfare (a state of consciousness), arguing that Pigou critics tend to compare Pigou on the material notion of welfare with Marshall when Marshall is referring to matters relating to total welfare. Moreover, McLure notes that the relative advantages and disadvantages of Pigou’s use of static analysis must be considered alongside a broader consideration of Pigou’s work. This includes consideration of Pigou’s achievements as a historical scholar (recalling Pigou having gained a 1st in the historical Tripos), Pigou’s various contributions to studies in economic history, and his nuanced distinction between welfare in general and economic welfare.

With the passage of time, eminent economists and intellectual historians have come more and more to dissent from the ‘traditional’ view that Pigou was a loyal Marshallian. Indeed, the incidence of that dissent has risen notably over the last twenty years, which has coincided with a significant revival in Marshallian studies. Indeed, it is possible that the increase incidence of papers questioning Pigou’s Marshallian credentials are at least partly attributable to the evolving – possibly revisionist – interpretation of what Marshallian economics actually is. Is the growing emphasis on discontinuity between Pigou and Marshall largely due to a changing understanding of Marshallian thought? To answer that question, it is necessary to review economists’ and intellectual historians’ understanding of the Marshallian approach to economics.

4. Diverse Meaning of “Marshallian” Economic Thought

To establish whether the meaning of the phrase ‘Marshallian economics’ has evolved significantly, ideas from a selection of works is discussed below. The ideas derive from literature
that may be classified by the following broad titles: recollections of Marshall by his contemporaries and students; and considerations on, or analyses of, the Marshallian School, era or tradition. As emphasis in the literature on the non-Marshallian aspects of Pigou’s work have increased in the last twenty years, the survey has been split into two periods: before 1985; and after 1985. The year 1985 has been selected because, in rough terms, it corresponds to before and after the revival in Marshallian studies.

**Views of the Marshallian School before 1985**

The term ‘Marshallian’ appears as early as 1894 in a listing of periodicals and new books in – *Sul trattamento di questioni dinamiere*, by G. Basone - “An elaborate investigation of the assumptions underlying different kinds of economic curves; with a reconciliation of the ‘Walrasian’ and ‘Marshallian’ methods” ("Recent Periodicals and New Books," 1894, p. 756). A search completed for the term ‘Marshallian’ in JSTOR in the *Economic Journal* found that the term ‘Marshallian’ appeared rarely before the early 1920s, but thereafter increased in use after Keynes’s (1924) celebrated biographical essay of Marshall appeared in the Journal following Marshall’s death. Keynes’s biographical essay subsequently appeared in the notable and oft-cited *Memorials of Alfred Marshall* edited by Pigou the following year. The *Memorials* provide a rich source of how Marshall’s colleagues and students J.M. Keynes, F.Y. Edgeworth, C.R. Fay, E.A. Benians and Pigou viewed his contributions to economic thought and perceived his legacy and influence. The five contributors consider three main aspects of Marshall and his influence: the underlying forces which shaped his character as an individual and the development of his thought and interests in economics (biographical); his major theoretical contributions (theory); and his style or approach to economics, including his pedagogical style, and its impact on the development of the discipline. Keynes (Pigou, 1925 pp. 41-46) used the term ‘Marshallian’ to identify and discuss Marshall’s major contributions to economic thought, which are summarised in brief below:

1. The integration of cost and demand-based price theories;
2. The generalising of equilibrium theory by extending supply and demand analysis to accommodate the principles of substitution at the margin, bringing wages and profits into the general analysis and introducing the national dividend as “the joint product of them all” (Pigou, 1925p. 42);
3. The introduction of time and analysis using the concepts of the long and short run;
4. The use of the conception of Consumers’ Rent or Surplus;
5. The analysis of monopoly and increasing returns;
6. The explicit introduction of the idea of elasticity; and
7. The broad historical observations which underlay theory development in the *Principles*.

In regard to point 3 above, Keynes’s uses the term ‘Marshallian’ when discussing Marshall’s explicit introduction of the element of time as a consideration in economic analysis of profit: “with the aid of two further characteristically Marshallian conceptions – Quasi-Rent and the Representative Firm – the doctrine of Normal Profit was evolved” (Keynes cited in Pigou, 1925 p 43).

Marshall’s students and contemporaries also recall characteristic “Marshallian” style and approach. Keynes, Edgeworth, Fay, Benian and Pigou recall Marshall’s desire to “do good”. Keynes’s, Edgeworth and Pigou all note Marshall’s synthetic and balanced employment of analytical thought and realistic detail and Marshall’s concern that his written work be garnered in a style such that economic thought be understood by both “men of affairs” and students of economics. Both Pigou (1925, pp. 88) and Keynes (1925, p. 37-8) recall Marshall’s dislike of controversies and negative criticism and assess them in the context of Marshall’s efforts to develop economics as an objective science, but whereas Keynes highlights the certain disadvantages of Marshall’s conservative approach to critique, controversy and rhetorical method in *Memorials*, Pigou highlights the positive. “[J]oint work towards a common goal, motivated by human sympathy” (Pigou, 1925 p. 88) was the *Esprit de corps* that, as Pigou recalls, that Marshall promoted whilst Professor of Political Economy at Cambridge.

Later assessments of Marshall’s style of approach to economic thought are scattered throughout Pigou’s work. In his retrospective essay on Keynes’s *The General Theory*, Pigou (1950) carefully draws the commonalities he sees between Marshall and Keynes approaches. In Pigou’s assessment, both men viewed economic realities similarly. Both recognised the interrelatedness of economic factors whose interplay determined outcomes in economic systems (1950, p. 27). Both developed theoretical apparatuses approximating economic tendencies which led economic systems from disequilibrium to equilibrium positions. But in identifying differences between their respective theories, Pigou regarded Marshall’s perspective as one that considers the movement associated with tendencies toward a long-period equilibrium position “always pursued but never attained”, whereas he regarded Keynes’s perspective as one that considers the outcome of such tendencies in the short-period, developing a staccato analysis like “a succession of moving stills”. In Pigou’s assessment neither Marshall nor Keynes were able to present a complete “moving picture” of the course of the real movement of one equilibrium position to
another but viewed their respective theoretical approaches as “cousins with a common ancestor, both special cases of something more general than either” (Pigou 1950, fn. 1 p. 24). The point is that whilst Pigou acknowledged differences in their respective theory, he considered Marshall and Keynes as engaged in an approach arising from common ground; a striving to explain a shared vision of a complex economic reality.

In *Alfred Marshall and Current Thought*, Pigou (1953, p. 11) emphasises that Marshall was “essentially and emphatically pro-realism”, employing mechanical and biological analogies as avenues of approximation. The former to be used as a first approximation which needed to give way to biological analogies as economists sought to move approximations closer to economic reality; Marshall's circumspection regarding the use of mathematics being related to its limits to inform thinking when more complex perspectives of reality were required. A further aspect of Marshall's approach is considered by Pigou. He thought that Marshall would have accepted that Keynes had discovered a serious mistake in his analysis of interest as it applies to the short-period, recognising Keynes's pioneering efforts toward “a better and more fruitful synthesis” (1953, p. 36). To Pigou, and as he attributes to the style and approach of Marshall, importance lay in the process of advancing economic theory; the focus was not mistakes and controversies but the progressive understanding of economic phenomenon. What is clear is that Marshall’s contemporaries and students recognised two aspects of his approach to economics: his theoretical contributions, and his method or approach. If Keynes’s very broad characterisation of Marshallian economics is adopted, and note is made of Pigou's assessment of the realism underlying Marshall’s work and comments on the Marshallian dimension to Keynes’s work, notwithstanding his emphasis on the short rather than the long period, it is not difficult to regard Pigou’s general contribution as Marshallian. As an original thinker in his own right, he was willing to depart from Marshall on some very specific issues so, like Keynes; he could treat the short period more fully and analytically. It is possible to view his introduction of the equilibrium firm, as well as his contributions to the theory of unemployment, in that light.

The range of papers published in the *Economic Journal* in the 1920s that culminated in 1930 *The Symposium on Increasing Returns and the Representative Firm* that appeared in the *Economic Journal* is a generally acknowledged watershed in the interpretation of ‘Marshallian’ economic ideas. The symposium had aired two aspects of critical dispute which arisen amongst Cambridge economists. The first aspect was embodied in Peiro Sraffa’s (1926) analysis of the laws of returns under Competitive Conditions in which Sraffa mounted a critique of the Marshallian analysis of increasing and decreasing returns when those concepts are considered with respect to
competitive markets. The second concerned the nature of Marshall’s Representative Firm which Lionel Robbins (1928) argued was “a somewhat unsubstantial notion” where “a greater economy of theoretical apparatus was possible”. Between 1950 and the mid-1980s, the former aspect dominated historical assessments. Authors such as Schumpeter (1996[1954]), Blaug (1985 [1962]), Samuelson (1967), Schackle (1967) and Moss (1984) presented the dismantling of Marshall’s theory of value analysis as inevitable and, in some cases, welcomed; historians of economic thought at during this period generally viewing Marshall’s legacy from perspectives of insight being gained from the development of theories of imperfect competition. The second aspect concerns the interpretation, meaning and significance of Marshall’s Representative Firm, which undergoes a major transformation. Following Pigou (1930), the transformation concerns the analytical coherence of equilibrium theory. While not everyone was convinced of Pigou’s equilibrium firm is a suitable replacement for Marshall’s representative firm – D. H. Robertson is most notable in that regard – for much of this period the focus of discussion was less on understanding Marshall’s meaning per se than it was on the internal consistency of equilibrium value theory typically associated with Marshall or neoclassical economics more generally. Over time however, with concerns repeated by Robertson, that situation started to change from the 1950s. By the mid-1980s, literature concerned with refining and reviewing the characterisation of the Marshallian approach became so prominent that it started to dominate the literature.

Views of the Marshallian School expressed after 1985 until present

Greater depth in historical understanding of Marshall’s economics became possible through: the publication of a significant amount of Marshall’s correspondence, his earlier philosophical essays, and other hitherto unpublished lectures and papers (P. Groenewegen, 1996; Raffaelli, 1994; Raffaelli, Biagini, & Williams Tullberg, 1995; Whitaker, 1975, 1996); the appearance of surveys and summaries of his published economic writings (Reisman, 1986, 1987,

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7 Previous debates earlier in the decade had arisen between Pigou and Clapham concerning the relevance or otherwise of increasing and decreasing returns (‘the empty boxes’ debate), and Pigou and Robertson (‘those empty boxes’) which had considered the difficulties in effective treatment of increasing returns in economic analysis.

8 Robertson’s (1950) characterised Pigou’s Appendix III ‘A Diagramatic and Mathematical Treatment of Certain Problems of Competition and Monopoly’ of the Economics of Welfare, which introduces with the equilibrium firm to analysis, as contributing to “Geometry ascend[ing] the throne left vacant by philosophy and common sense” (1950, p. 8). See also Robertson, 1956, 1957, 1959, 1960).

1990); and biographical studies (Coase, 1994; O’Brien, 1981; Whitaker, 1972) culminating in Peter Groenewegen’s extensive biography (1995). After the mid-1980s, able to draw upon broaden historiographical materials and methods, Marshall Scholars presented re-interpretations of Marshall’s work which provided even greater emphasis on the evolutionary character of Marshall’s treatment of development and progress, with Marshall’s equilibrium treatment of value being seen as largely conditional on that evolutionary supply side context. For example, scholars such as Becattini (1986), Prendergast (1992), Aboucher (1990), Marchionatti (2001) and Hart (2003b) were able to support the earlier work of Andrews (1951), Becattini (1962) and Loasby (1978) and found continuing relevance and application of Marshall’s industrial analysis.

Once this ‘new’ interpretations is accepted, Pigou occupies a particularly negative place in the development and dissemination of Marshallian thought. He becomes the scholar who discarded Marshall’s evolutionary approach to development and progress, in which interaction between increasing and the distribution of firms in an industry provides insight into development, in favour of a more statically, and sometimes short even short period, oriented equilibrium economics. For example, Hart (1992) shifts Sraffa’s (1926) critique of Marshall squarely upon Pigou, interpreting Pigou’s (1928) response to Sraffa’s critique as a circumvention of Marshall’s “reconciliation problem” of representing dynamic processes such as embodied in the analysis of increasing returns within a static equilibrium analysis –

“Sraffa’s (1926) demonstration of the serious limitations of such an approach was not so much an attack on Marshall’s analysis, but rather on the theoretical apparatus being constructed by those who sought to circumvent the dilemma Marshall had posed and attempted to resolve” (Hart, 1992 p. 238).

Carlo Cristiano (2010) argues that Pigou represented a “change in ‘chromosomes’” at Cambridge where Pigou’s differences in both approach and theory development in welfare and industrial analysis, and his role in the dismantling of Marshall’s theory of value, is viewed as having significantly departing from Marshall’s thought.10 By stating that, “because Pigou’s choices [...] not just between Marshall himself and what was to become Marshallian orthodoxy at Cambridge”, Cristiano (2010, p. 22-3) suggests a further change to the meaning of the term ‘Marshallian’ when referring to a group of scholars; that is, he distinguishes Marshall, from those

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10 In the same chapter (Cristiano, 2010 pp. 33-36), consideration is given to Keynes as a ‘Marshallian’ where, although reference is made to the contentiousness of the debate concerning whether Keynes was a ‘Marshallian’ or not, similarities are sought and continuity is found in Keynes’s method and style of approach as Marshall’s though applied to a new line of study (macroeconomics).
students who had been influence by Pigou but were still schooled in Marshall’s economics. This is a position also taken by Hart (2003a, 2012) differentiates the “Marshallianism presided over by Pigou” and the ‘Marshallianism’ presided by Marshall, and goes so far as to present a case of “why Marshall was not a Marshallian”. The point underlined here, is that not only has the term ‘Marshallian’ been employed to describe different things, but demarcation lines between Marshall and his students have also become blurred, as relative continuities and discontinuities between them have been interpreted differently dependent on the emphasis placed upon ways in which the term ‘Marshallian’ is understood.

But not all scholars have accepted this strict focus on the detail of Marshall’s theory when characterising work as Marshallian or not. David Collard (1996), for example, identifies the style and attributes of the ‘Marshallian’ Organon as a research program, rather than as a particular aspect of theory. He considers that the relative adherence of Pigou, Robertson and Keynes to these attributes can be considered. In doing so, Collard highlights the heterogeneity of Pigou’s, Keynes’s and Robertson’s economic approach to theory in the period after Marshall, though still considering them as sharing an overall contiguity with the “Marshallian Organon”. Similarly, in reference to a work by Michel De Vroey (2011), David Colander notes that: “Michel interprets Marshallian as ‘one who uses Marshallian models’; I interpret Marshallian as ‘one who uses the Marshallian method’” (Colander 2011, p. 73).

Groenewegen (1995), when considering Marshall’s legacy in chapter 20 of The Soaring Eagle, provides an evaluation of the Cambridge School in terms of both Marshall’s impact and influence and his style of economics. Four main characteristics are identified with this particular ‘Marshallian’ approach: first, an emphasis on the dynamic feature of economics; second, Marshall’s emphasis on useful abstraction; third the dialectical relationship implicitly developed in Marshall’s economics between finding explanation (to explain economic phenomenon) and engineering for change (by being able to inform economic policy); and fourth, the portrayal of economics as a way of thinking, which is both synthetic and pluralistic, or more simply, as a “box of tools”. Groenewegen also observes the different bases of intellectual development in the first and second waves of Marshall’s students, who then taught subsequent generations, indicating

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As used in the meaning attributed to it by Imre Lakatos, that is, a professional network of scientists conducting basic research and where multiple research programs co-exists that have a hard core of theory which is immune to revision, surrounded by a protective belt of malleable theories (Bechel, 1988).

Groenewegen’s considerations of Marshall’s legacy within his rich biographical study being further supplemented by his study The Minor Marshallians and Alfred Marshall published in 2012.
temporal changes in economic thought at Cambridge. Groenewegen’s study of “minor” Marshallians suggests a hierarchal characteristic of the group of economists that are considered ‘Marshallian’. Unlike many other studies, Groenewegen provides a method of determining ‘Marshallian’ credentials; the use of Marshallian tools and acknowledgement and frequency of citation of Marshall’s published work.

Becattini (2006, pp. 609-616) identifies characteristics of the “Marshallian School of Economics” in a similar vein as Groenewegen (1995). However, issues arise when using matrices of characteristics in determining an economist’s particular ‘Marshallian’ credential. For example, plurality of method as a ‘Marshallian’ characteristic might result in the characterisation of a scholar as ‘Marshallian’, but does this particular economist also exhibit other characteristics of the ‘Marshallian’ approach or ‘Marshallian’ theory? An economist’s ‘Marshallian’ credential then becomes a matter of degree. Collard (1996), Groenewegen (1995; 2012), and Becattini (2006) all note stimulus for modification of approach between Marshall and his generations of disciples and this identifies with Marshall’s recognition that the study of economics needs to move beyond theory generation to the development of an “analytical regime” needed to deal with social phenomenon; economists’ subject matter and skills shift in a constant state of movement as economists self-consciously reflect upon their method of research, examining assumptions, their own developed preconceptions, and the dynamical nature of the questions they pose and consider. It is this form of reflexivity which needs to be recognised when assessing particular scholar’s relative continuity and discontinuity to particular modes of thought; historians of economic thought also have dynamic and changing interpretational horizons.

5. Concluding Remarks

Considerations of Pigou since 1925 have been impacted by changes in interpretations of ‘Marshallian’ economic thought which are in part related to broader changes in historiographical approaches to the study of Marshall, his work and his legacy. These related changes reshaped meanings of the term ‘Marshallian’ which has been used to describe particular characteristics of Marshall’s approach to economics, Marshall’s theoretical analysis and modelling, and to particular sociological features.

The critical point is that the evolving interpretation of the meaning of ‘Marshallian’ economics has greatly challenged the disciplines perspective on Pigou as a ‘Marshallian’. In the period before 1985, assessments of Marshall generally emphasised perspectives through the
lenses of the development of formalism within the discipline and the relevance of Marshall’s
treatment of analysis of supply and demand under competition in his theory of value. In these
cases Pigou’s development of the equilibrium firm was generally considered as a defence of the
critique being levelled at Marshall’s theory of value on grounds of logic; although signs of dissent
were already evident in the work of Robertson, from the mid –1920s, and other scholars, from
the 1950s. From the mid-1980s onwards, however, scholars developed interpretations of
Marshall’s analysis of industry placed emphasis on his biological analogy in long period
development and the associated role of dynamics in the production, to contrast with Pigou’s
analytical development of the equilibrium firm. However, the distinction between economic
‘models’ (or theory) and ‘method’ has been used by Colander in a way that suggests a possible
reconciliation whereby Pigou’s approach may still be Marshallian: even though his models are
different than Marshall’s – with greater emphasis on static equilibrium and greater weight
assigned to the consideration of short period problems – he retained Marshall’s method and
philosophy of science.

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ECONOMICS DISCUSSION PAPERS
2013

<table>
<thead>
<tr>
<th>DP NUMBER</th>
<th>AUTHORS</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.01</td>
<td>Chen, M., Clements, K.W. and Gao, G.</td>
<td>THREE FACTS ABOUT WORLD METAL PRICES</td>
</tr>
<tr>
<td>13.02</td>
<td>Collins, J. and Richards, O.</td>
<td>EVOLUTION, FERTILITY AND THE AGEING POPULATION</td>
</tr>
<tr>
<td>13.04</td>
<td>Robitaille, M.C. and Chatterjee, I.</td>
<td>MOTHERS-IN-LAW AND SON PREFERENCE IN INDIA</td>
</tr>
<tr>
<td>13.05</td>
<td>Clements, K.W. and Izan, I.H.Y.</td>
<td>REPORT ON THE 25TH PHD CONFERENCE IN ECONOMICS AND BUSINESS</td>
</tr>
<tr>
<td>13.06</td>
<td>Walker, A. and Tyers, R.</td>
<td>QUANTIFYING AUSTRALIA’S “THREE SPEED” BOOM</td>
</tr>
<tr>
<td>13.07</td>
<td>Yu, F. and Wu, Y.</td>
<td>PATENT EXAMINATION AND DISGUISED PROTECTION</td>
</tr>
<tr>
<td>13.08</td>
<td>Yu, F. and Wu, Y.</td>
<td>PATENT CITATIONS AND KNOWLEDGE SPILLOVERS: AN ANALYSIS OF CHINESE PATENTS REGISTER IN THE US</td>
</tr>
<tr>
<td>13.09</td>
<td>Chatterjee, I. and Saha, B.</td>
<td>BARGAINING DELEGATION IN MONOPOLY</td>
</tr>
<tr>
<td>13.10</td>
<td>Cheong, T.S. and Wu, Y.</td>
<td>GLOBALIZATION AND REGIONAL INEQUALITY IN CHINA</td>
</tr>
<tr>
<td>13.11</td>
<td>Cheong, T.S. and Wu, Y.</td>
<td>INEQUALITY AND CRIME RATES IN CHINA</td>
</tr>
<tr>
<td>13.12</td>
<td>Robertson, P.E. and Ye, L.</td>
<td>ON THE EXISTENCE OF A MIDDLE INCOME TRAP</td>
</tr>
<tr>
<td>13.13</td>
<td>Robertson, P.E.</td>
<td>THE GLOBAL IMPACT OF CHINA’S GROWTH</td>
</tr>
<tr>
<td>13.14</td>
<td>Hanaki, N., Jacquemet, N., Luchini, S., and Zylbersztejn, A.</td>
<td>BOUNDED RATIONALITY AND STRATEGIC UNCERTAINTY IN A SIMPLE DOMINANCE SOLVABLE GAME</td>
</tr>
<tr>
<td>13.15</td>
<td>Okatch, Z., Siddique, A. and Rammohan, A.</td>
<td>DETERMINANTS OF INCOME INEQUALITY IN BOTSWANA</td>
</tr>
<tr>
<td>13.16</td>
<td>Clements, K.W. and Gao, G.</td>
<td>A MULTI-MARKET APPROACH TO MEASURING THE CYCLE</td>
</tr>
<tr>
<td>13.17</td>
<td>Chatterjee, I. and Ray, R.</td>
<td>THE ROLE OF INSTITUTIONS IN THE INCIDENCE OF CRIME AND CORRUPTION</td>
</tr>
<tr>
<td>13.18</td>
<td>Fu, D. and Wu, Y.</td>
<td>EXPORT SURVIVAL PATTERN AND DETERMINANTS OF CHINESE MANUFACTURING FIRMS</td>
</tr>
<tr>
<td>13.19</td>
<td>Shi, X., Wu, Y. and Zhao, D.</td>
<td>KNOWLEDGE INTENSIVE BUSINESS SERVICES AND THEIR IMPACT ON INNOVATION IN CHINA</td>
</tr>
<tr>
<td>13.20</td>
<td>Tyers, R., Zhang, Y. and Cheong, T.S.</td>
<td>CHINA’S SAVING AND GLOBAL ECONOMIC PERFORMANCE</td>
</tr>
<tr>
<td>13.22</td>
<td>Hartley, P.R.</td>
<td>THE FUTURE OF LONG-TERM LNG CONTRACTS</td>
</tr>
<tr>
<td>13.23</td>
<td>Tyers, R.</td>
<td>A SIMPLE MODEL TO STUDY GLOBAL MACROECONOMIC INTERDEPENDENCE</td>
</tr>
<tr>
<td>13.24</td>
<td>McLure, M.</td>
<td>REFLECTIONS ON THE QUANTITY THEORY: PIGOU IN 1917 AND PARETO IN 1920-21</td>
</tr>
<tr>
<td>13.27</td>
<td>Li, B. and Zhang, J.</td>
<td>GOVERNMENT DEBT IN AN INTERGENERATIONAL MODEL OF ECONOMIC GROWTH, ENDOGENOUS FERTILITY, AND ELASTIC LABOR WITH AN APPLICATION TO JAPAN</td>
</tr>
<tr>
<td>13.28</td>
<td>Robitaille, M. and Chatterjee, I.</td>
<td>SEX-SELECTIVE ABORTIONS AND INFANT MORTALITY IN INDIA: THE ROLE OF PARENTS’ STATED SON PREFERENCE</td>
</tr>
<tr>
<td>13.29</td>
<td>Ezzati, P.</td>
<td>ANALYSIS OF VOLATILITY SPILLOVER EFFECTS: TWO-STAGE PROCEDURE BASED ON A MODIFIED GARCH-M</td>
</tr>
<tr>
<td>13.30</td>
<td>Robertson, P. E.</td>
<td>DOES A FREE MARKET ECONOMY MAKE AUSTRALIA MORE OR LESS SECURE IN A GLOBALISED WORLD?</td>
</tr>
<tr>
<td>13.31</td>
<td>Das, S., Ghate, C. and Robertson, P. E.</td>
<td>REMOTENESS AND UNBALANCED GROWTH: UNDERSTANDING DIVERGENCE ACROSS INDIAN DISTRICTS</td>
</tr>
<tr>
<td>13.32</td>
<td>Robertson, P.E. and Sin, A.</td>
<td>MEASURING HARD POWER: CHINA’S ECONOMIC GROWTH AND MILITARY CAPACITY</td>
</tr>
<tr>
<td>13.33</td>
<td>Wu, Y.</td>
<td>TRENDS AND PROSPECTS FOR THE RENEWABLE ENERGY SECTOR IN THE EAS REGION</td>
</tr>
<tr>
<td>13.34</td>
<td>Yang, S., Zhao, D., Wu, Y. and Fan, J.</td>
<td>REGIONAL VARIATION IN CARBON EMISSION AND ITS DRIVING FORCES IN CHINA: AN INDEX DECOMPOSITION ANALYSIS</td>
</tr>
<tr>
<td>DP NUMBER</td>
<td>AUTHORS</td>
<td>TITLE</td>
</tr>
<tr>
<td>-----------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>14.01</td>
<td>Boediono, Vice President of the Republic of Indonesia</td>
<td>THE CHALLENGES OF POLICY MAKING IN A YOUNG DEMOCRACY: THE CASE OF INDONESIA (52ND SHANN MEMORIAL LECTURE, 2013)</td>
</tr>
<tr>
<td>14.02</td>
<td>Metaxas, P.E. and Weber, E.J.</td>
<td>AN AUSTRALIAN CONTRIBUTION TO INTERNATIONAL TRADE THEORY: THE DEPENDENT ECONOMY MODEL</td>
</tr>
<tr>
<td>14.03</td>
<td>Fan, J., Zhao, D., Wu, Y. and Wei, J.</td>
<td>CARBON PRICING AND ELECTRICITY MARKET REFORMS IN CHINA</td>
</tr>
<tr>
<td>14.05</td>
<td>McLure, M.</td>
<td>A.C. PIGOU’S MEMBERSHIP OF THE ‘CHAMBERLAIN-BRADBURY’ COMMITTEE. PART II: ‘TRANSITIONAL’ AND ‘ONGOING’ ISSUES</td>
</tr>
<tr>
<td>14.06</td>
<td>King, J.E. and McLure, M.</td>
<td>HISTORY OF THE CONCEPT OF VALUE</td>
</tr>
<tr>
<td>14.07</td>
<td>Williams, A.</td>
<td>A GLOBAL INDEX OF INFORMATION AND POLITICAL TRANSPARENCY</td>
</tr>
<tr>
<td>14.08</td>
<td>Knight, K.</td>
<td>A.C. PIGOU’S THE THEORY OF UNEMPLOYMENT AND ITS CORRIGENDA: THE LETTERS OF MAURICE ALLEN, ARTHUR L. BOWLEY, RICHARD KAHN AND DENNIS ROBERTSON</td>
</tr>
<tr>
<td>14.09</td>
<td>Cheong, T.S. and Wu, Y.</td>
<td>THE IMPACTS OF STRUCTURAL TRANSFORMATION AND INDUSTRIAL UPGRADING ON REGIONAL INEQUALITY IN CHINA</td>
</tr>
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<td>14.10</td>
<td>Chowdhury, M.H., Dewan, M.N.A., Quaddus, M., Naude, M. and Siddique, A.</td>
<td>GENDER EQUALITY AND SUSTAINABLE DEVELOPMENT WITH A FOCUS ON THE COASTAL FISHING COMMUNITY OF BANGLADESH</td>
</tr>
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<td>14.11</td>
<td>Bon, J.</td>
<td>UWA DISCUSSION PAPERS IN ECONOMICS: THE FIRST 750</td>
</tr>
<tr>
<td>14.12</td>
<td>Finlay, K. and Magnusson, L.M.</td>
<td>BOOTSTRAP METHODS FOR INference WITH CLUSTER-SAMPLE IV MODELS</td>
</tr>
<tr>
<td>14.14</td>
<td>Hartley, P.R. and Medlock III, K.B.</td>
<td>THE VALLEY OF DEATH FOR NEW ENERGY TECHNOLOGIES</td>
</tr>
<tr>
<td>14.15</td>
<td>Hartley, P.R., Medlock III, K.B., Temzelides, T. and Zhang, X.</td>
<td>LOCAL EMPLOYMENT IMPACT FROM COMPETING ENERGY SOURCES: SHALE GAS VERSUS WIND GENERATION IN TEXAS</td>
</tr>
<tr>
<td>14.16</td>
<td>Tyers, R. and Zhang, Y.</td>
<td>SHORT RUN EFFECTS OF THE ECONOMIC REFORM AGENDA</td>
</tr>
<tr>
<td>14.17</td>
<td>Clements, K.W., Si, J. and Simpson, T.</td>
<td>UNDERSTANDING NEW RESOURCE PROJECTS</td>
</tr>
<tr>
<td>14.18</td>
<td>Tyers, R.</td>
<td>SERVICE OLIGOPOLIES AND AUSTRALIA’S ECONOMY-WIDE PERFORMANCE</td>
</tr>
<tr>
<td>14.19</td>
<td>Tyers, R. and Zhang, Y.</td>
<td>REAL EXCHANGE RATE DETERMINATION AND THE CHINA PUZZLE</td>
</tr>
<tr>
<td>DP NUMBER</td>
<td>AUTHORS</td>
<td>TITLE</td>
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<td>14.20</td>
<td>Ingram, S.R.</td>
<td>COMMODITY PRICE CHANGES ARE CONCENTRATED AT THE END OF THE CYCLE</td>
</tr>
<tr>
<td>14.21</td>
<td>Cheong, T.S. and Wu, Y.</td>
<td>CHINA'S INDUSTRIAL OUTPUT: A COUNTY-LEVEL STUDY USING A NEW FRAMEWORK OF DISTRIBUTION DYNAMICS ANALYSIS</td>
</tr>
<tr>
<td>14.23</td>
<td>Tyers, R.</td>
<td>ASYMMETRY IN BOOM-BUST SHOCKS: AUSTRALIAN PERFORMANCE WITH OLIGOPOLY</td>
</tr>
<tr>
<td>14.25</td>
<td>Tyers, R.</td>
<td>INTERNATIONAL EFFECTS OF CHINA’S RISE AND TRANSITION: NEOCLASSICAL AND KEYNESIAN PERSPECTIVES</td>
</tr>
<tr>
<td>14.27</td>
<td>Clements, K.W. and Li, L.</td>
<td>VALUING RESOURCE INVESTMENTS</td>
</tr>
<tr>
<td>14.28</td>
<td>Tyers, R.</td>
<td>PESSIMISM SHOCKS IN A MODEL OF GLOBAL MACROECONOMIC INTERDEPENDENCE</td>
</tr>
<tr>
<td>14.29</td>
<td>Iqbal, K. and Siddique, M.A.B.</td>
<td>THE IMPACT OF CLIMATE CHANGE ON AGRICULTURAL PRODUCTIVITY: EVIDENCE FROM PANEL DATA OF BANGLADESH</td>
</tr>
<tr>
<td>14.30</td>
<td>Ezzati, P.</td>
<td>MONETARY POLICY RESPONSES TO FOREIGN FINANCIAL MARKET SHOCKS: APPLICATION OF A MODIFIED OPEN-ECONOMY TAYLOR RULE</td>
</tr>
<tr>
<td>14.33</td>
<td>McLure, M.</td>
<td>A-HISTORICAL ECONOMIC DYNAMICS: A BOOK REVIEW</td>
</tr>
<tr>
<td>14.34</td>
<td>Clements, K.W. and Gao, G.</td>
<td>THE ROTTERDAM DEMAND MODEL HALF A CENTURY ON</td>
</tr>
<tr>
<td>DP NUMBER</td>
<td>AUTHORS</td>
<td>TITLE</td>
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<td>15.01</td>
<td>Robertson, P.E. and Robitaille, M.C.</td>
<td>THE GRAVITY OF RESOURCES AND THE TYRANNY OF DISTANCE</td>
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<td>15.02</td>
<td>Tyers, R.</td>
<td>FINANCIAL INTEGRATION AND CHINA’S GLOBAL IMPACT</td>
</tr>
<tr>
<td>15.03</td>
<td>Clements, K.W. and Si, J.</td>
<td>MORE ON THE PRICE-RESPONSIVENESS OF FOOD CONSUMPTION</td>
</tr>
<tr>
<td>15.04</td>
<td>Tang, S.H.K.</td>
<td>PARENTS, MIGRANT DOMESTIC WORKERS, AND CHILDREN’S SPEAKING OF A SECOND LANGUAGE: EVIDENCE FROM HONG KONG</td>
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<tr>
<td>15.05</td>
<td>Tyers, R.</td>
<td>CHINA AND GLOBAL MACROECONOMIC INTERDEPENDENCE</td>
</tr>
<tr>
<td>15.06</td>
<td>Fan, J., Wu, Y., Guo, X., Zhao, D. and Marinova, D.</td>
<td>REGIONAL DISPARITY OF EMBEDDED CARBON FOOTPRINT AND ITS SOURCES IN CHINA: A CONSUMPTION PERSPECTIVE</td>
</tr>
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<td>15.07</td>
<td>Fan, J., Wang, S., Wu, Y., Li, J. and Zhao, D.</td>
<td>BUFFER EFFECT AND PRICE EFFECT OF A PERSONAL CARBON TRADING SCHEME</td>
</tr>
<tr>
<td>15.08</td>
<td>Neill, K.</td>
<td>WESTERN AUSTRALIA’S DOMESTIC GAS RESERVATION POLICY THE ELEMENTAL ECONOMICS</td>
</tr>
<tr>
<td>15.09</td>
<td>Collins, J., Baer, B. and Weber, E.J.</td>
<td>THE EVOLUTIONARY FOUNDATIONS OF ECONOMICS</td>
</tr>
<tr>
<td>15.10</td>
<td>Siddique, A., Selvanathan, E. A. and Selvanathan, S.</td>
<td>THE IMPACT OF EXTERNAL DEBT ON ECONOMIC GROWTH: EMPIRICAL EVIDENCE FROM HIGHLY INDEBTED POOR COUNTRIES</td>
</tr>
<tr>
<td>15.11</td>
<td>Wu, Y.</td>
<td>LOCAL GOVERNMENT DEBT AND ECONOMIC GROWTH IN CHINA</td>
</tr>
<tr>
<td>15.12</td>
<td>Tyers, R. and Bain, I.</td>
<td>THE GLOBAL ECONOMIC IMPLICATIONS OF FREER SKILLED MIGRATION</td>
</tr>
<tr>
<td>15.14</td>
<td>Knight, K.</td>
<td>PIGOU, A LOYAL MARSHALLIAN?</td>
</tr>
<tr>
<td>15.15</td>
<td>Kristoffersen, I.</td>
<td>THE AGE-HAPPINESS PUZZLE: THE ROLE OF ECONOMIC CIRCUMSTANCES AND FINANCIAL SATISFACTION</td>
</tr>
<tr>
<td>15.16</td>
<td>Azwar, P. and Tyers, R.</td>
<td>INDONESIAN MACRO POLICY THROUGH TWO CRISES</td>
</tr>
<tr>
<td>15.17</td>
<td>Asano, A. and Tyers, R.</td>
<td>THIRD ARROW REFORMS AND JAPAN’S ECONOMIC PERFORMANCE</td>
</tr>
<tr>
<td>15.18</td>
<td>Arthmar, R. and McLure, M.</td>
<td>ON BRITAIN’S RETURN TO THE GOLD STANDARD: WAS THERE A ‘PIGOU-MCKENNA SCHOOL’?</td>
</tr>
<tr>
<td>15.20</td>
<td>Shehabi, M.</td>
<td>AN EXTRAORDINARY RECOVERY: KUWAIT FOLLOWING THE GULF WAR</td>
</tr>
</tbody>
</table>