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Editor-in-Chief:
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Managing Editor:
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EXCHANGE AND AUTHORITY: THE MIXED ECONOMY

D.A.Reisman

Nanyang Technological University

ABSTRACT

Economics tends to concentrate on the market while politics is the study of governance and of leadership. The real world does not divide neatly along the lines that mark out the disciplines. The mixed economy, partly free enterprise and partly State management, is a case in point where trespass and synthesis are essential if an important real-world phenomenon is to be understood and, where appropriate, re-shaped. This paper seeks to map out the mixed economy. It strives in that way to provide a framework for discourse that clarifies the choices open to public policy.

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Political economy is about market *and* State. It is about exchange *and* authority, effective demand *and* social values. It is about contract *and* command, initiatives bottom-up *and* directives top-down. It is the study of the managed and the mixed economy. The most important concept in political economy is the *and*. Without the *and* there can be no political economy.

Economics is the study of the production, consumption, distribution and exchange of scarce goods and services where opportunity costs exist and marginal choices impact upon the maximum welfare that can be squeezed from a given input endowment. Its theoretical tools include the demand curve, the supply schedule, the production function, consumer and producer surplus, fixed and variable cost, the national product, the savings-income relationship, the investment multiplier, the interest-elasticity of money balances and the box diagram in the sense of Edgeworth that confirms the general equilibrium in the sense of Pareto that relies upon the price *tâtonnement* in the sense of Walras. Political economy is quick to make use of theoretical tools such as these which enable investigators to identify the *what is* of resource allocation with a view to the *what ought to be* of efficient deployment. What differentiates political economy from economics is that it incorporates the theoretical tools and then adds in the *and* that is something more: the rules and agreements that allow discrete individuals to live together peacefully in communities.

Sometimes the standards will be enforced by social pressures and informal sanctions. There can be order even in anarchy. Sometimes the compromise will require a governor from above. Chaos can result where there is no shepherd to guide the sheep. Sometimes the rules will be as diffuse as collective conventions, interpersonal and inter-temporal. Sometimes the constraints will be as much a

manufacture as the division of labour that puts the leadership in charge. Always, however, the normative guidelines are the essence of political economy. The market defuses tensions by enabling the butcher and the brewer each to satisfy the other's revealed preferences. Rules and agreements settle disputes differently where the factored-down deal is believed not to be productive of the commonly-optimal endstate. Political economy is the study of exchange but also the study of authority when exchange falls short. Its central focus, in other words, is on the *and*.

This paper does not seek to trace back the etymology of political economy to the Greeks or to compare the kaleidoscopic meanings that have been assigned to it over time, from public administration in the sense of Mirabeau or the Cameralists to the anatomy of bourgeois society in the sense of Marx and the rational choice of policy-makers in the sense of Chicago and Virginia (Groenewegen, 1987). Taking the term today to mean exchange *and* authority, man not *versus* but *together with* the State, the paper sets out simply to clarify the meaning and scope of the theory of the mix. Its aim is to identify the contours and to map the roads that link up the double realm. Market and State may be substitutes but they are also fellow travellers. The cross-breed is already there. This paper, arriving *post festum*, tries to describe what everyone but the textbook neoclassicals and the island university departments knows to be the way that we today get things done.

The first section of the paper considers the *why*. It is entitled Market Failure. The second to the sixth sections deal with *how to*. They explore the various forms of collective intervention that are demanded and supplied when the gains from trade fall short. The final section, Government Failure, shows that countervailing power can veil and not merely counter the great social ills of waste, inequity and depredation. The essay concludes with an endorsement of an academic sub-discipline that builds its home defiantly upon the *and*. Ideologists begin at the end with first principles, *nostrums* and templates that require no real adaptation. Scientists have to make their own way by the light of their critical intelligence. Life is tough on the middle ground. But that's the way it is.

1. MARKET FAILURE

The basepoint is automaticity, gravity, homeostasis and decentralisation as if guided by an invisible hand with a strong commitment to the wealth of nations – and of households: 'Every individual is continually exerting himself to find out the most advantageous employment for whatever capital he can command. It is his own advantage, indeed, and not that of the society which he has in view. But the study of his own advantage naturally, or rather necessarily leads him to prefer that employment which is most advantageous to the society.' (Smith 1776, I, 475). Adam Smith, writing when the industrial revolution was poised to liberate British capitalism from feudal traditionalism and mercantilist restriction alike, was in favour of supply and demand because they transformed private vices into public virtues. He was much less confident about the economic consequences of self-abnegation, self-declared: 'I have never

known much good done by those who affected to trade for the public good.' (Smith 1776, I, 478).

Adam Smith's theory is one of private selfishness converted into general affluence. Each self-interested gain-seeker must satisfy his customer in order himself to pocket his profit. It is with a view to his customer's utility and not to his own priorities that the seller sets the *what*, the *how much*, the *for whom*, that he selects the opening-hours most likely to maximise his throughput, that he cost-benefits the technology that will keep down his average cost. His motives are blinkered and self-regarding. The consequentialism more than compensates for the deontology. The outcome, unintended though it is, is the buyer's first-ranked commodity supplied at a price made competitive by competition. No one can take issue with that.

The baseline is finely-targeted choice and the freely-negotiated swap. The problem is that the market itself sometimes fails to live up to its own high expectations. Bounded rationality, sunk overheads and path-dependence make price-signalling backward-looking, strong on self-perpetuation but resistant to the new. Information impactedness and asymmetrical expertise can mean the concealment of house secrets concerning the life-expectancy and track record of a good or service. The framing bias, the endowment ratchet, the salience of the well-publicised can cause fixed bygones to be over-computed, low probabilities to be exaggerated, reference-points to be rubber-stamped. Product differentiation, brand name, manipulated loyalty, the knee-jerk repeat purchase that is the greatest of the first-mover advantages can mean that consumers will not prudently shop around in pursuit of the highest-attainable value for money. The behavioural stake of business bureaucrats not in maximum profits but in job-satisfaction, security and expansion closely resembles the organisational goals of State-sector bureaucrats to whom the entrepreneurially-minded are reluctant to look for 'creative destruction'. Closed-shop trade unions, professional cartels, giant corporations with entry-barrier economies of scale, accommodating oligopolies which put collusion above rivalry, all undermine confidence in the textbook account of economic optimality through the price-taking auction. None of this suggests that real-world markets typically fail. Still less does it imply that State-planned enterprise will typically out-perform the private-sector alternative in the way that the resigned older Schumpeter anticipated once the Weberians had pushed the Mengerians into the history of thought (Schumpeter 1942, 196). What it does mean is that the real-world outcomes are not precisely those that the pure Smithian ideal would lead the economic neoclassical to predict. Political economy must compare the real with the real. There is no point in comparing the real with the ideal, the ideal with the real, in a best-possible vacuum world that is not our own.

To say that the market sometimes fails to live up to its own high expectations is not the same as to say that the market typically fails to reach an acceptable threshold. Nor does the fact of a shortfall prove that politicians and civil servants would necessarily improve on the palpable second-bests that are delivered by households and firms who are unable to match the full flowering of the confident textbook's 'let us assume'. The alternative to the market sector's second-best could well be the public sector's third-best or fourth-best or even no best at all. It need not be the perfection of the faultless first-

best which is common in Paradise and signally less common on Earth. Sometimes, however, there will be a strong conviction that *laissez-faire* has let the side down – and that the only salvation therefore lies in the State. Prominent among the areas of social life in which private individuals cannot bargain and buy their own solutions are more likely than not to be the following.

2. NATIONAL DEFENCE

Samuelson defines a public good as a stream of service ‘which all enjoy in common in the sense that each individual’s consumption of such a good leads to no subtraction from any other individual’s consumption’ (Samuelson 1954, 387). Defence by that standard would appear to be the ultimate public good. Non-rivalrous since ego’s absorption does not imperil alter’s access, non-exhaustible since one individual’s protection leaves as much and as good for his fellows, non-excludable since the transaction cost of depriving the tax-averse of the umbrella would be prohibitive, defence is a commodity which profit-seeking capitalists are not in a position to seal in priced packets and sell for a user-charge. Assuming that the nation is in broad agreement on the need for this public good, there would seem then to be no alternative but to make it a publicly-contracted good and for the State sector to accept by default the warrior-role that no one else wants.

Public funding has an intuitive appeal where the technology does not exist to meter citizens for the guns, the bombs and the border-guards that are their share in the survival of their homeland, their kith and kin. Public provision is more controversial. Given that military hardware has long been bought in from private factories and that even superpower armies are successfully comprised of non-conscript professionals, it might make economic sense for competing businesses to tender for a fixed-term franchise in the whole of the national shield. Career mercenaries will have more hands-on experience and more of the killer instinct than will reluctant short-timers whose comparative advantage might better serve the public interest if channelled into the next-best foregone. Besides that, the very fact of competition itself would suggest to the free-market economist that value for money is more likely to be squeezed out of a given budget if there is sequential tendering than if a single supplier is promised the tenured say. Even the Royal Air Force or the United States Marines cannot reasonably expect to contract out of the search for efficiency which in the capitalist economy means choice between rival hawkers and not the *fiat* monopoly of the ministry that knows best.

Just as there is an argument for enterprise, however, so there is a case for collectivisation. The money-motivated are less willing than are the patriotic to lay down their lives for the unnamed others who share their blood and soil. The money-motivated are more likely to be led by an invisible hand to re-sell their allegiance to an enemy aggressor if the price is right. Applying the unsentimental test of means-ends expediency, the quality of the product may well be inferior where defence is supplied through joint-stock companies and not by the State. Nationhood in any case is a mix of duties and emotions which is a thing apart from the departmental store in its summer sale. Nationhood is history and tradition, belonging and integration. Nationhood is the

German contra-cosmopolitan conservatism that situated the acculturated individual in his *Blut und Boden* and the English historical economics that inspired Cliffe Leslie to embed his *homo economicus* in 'a community one in blood, property, thought, moral responsibility, and manner of life' (Cliffe Leslie 1879, 230). Nationhood is the *Passport to Pimlico* that makes us fight them on the beaches because here is our home. Nationhood is more than a freely-negotiated swap.

Persuasive as it is, the demand for nationalisation on the grounds of nationhood is also profoundly unsettling. It makes the non-rational and the non-marginal the precondition for a society built around the primacy of utility and the independence of the individual. The principle conceded for defence, there is no reason why workers should not be expected to donate gratuitous shifts for national growth or accept that the euthanasia of the elderly is the way in which a body politic that lives as one concentrates its finite medical resources on those team-mates still able to score goals for the side. Nationalisation on the grounds of nationhood can be profoundly unsettling. Nationalisation on the grounds of market failure is, on the other hand, a plausible defence in a political economy that does not want to be stranded without stock.

3. LAW AND ORDER

Thomas Hobbes in the *Leviathan* in 1651 warned that human life in the state of nature would be 'solitary, poor, nasty, brutish, and short' (Hobbes 1651, 82). The Hobbesian vision is of a jungle red in tooth and claw. It is not the economist's utopia of the butcher, the brewer and the baker peaceably bargaining contracts that raise each other's satisfaction-levels, self-perceived.

Rules are needed; but that need not mean the State. People socialised into the norms and customs of a common culture fit in with tried-and-tested practices both because they do not want to be excluded from sociability and contact and because they fear the prick of conscience where they snatch quick gains and defect from alliances: 'Our continual observations upon the conduct of others, insensibly lead us to form to ourselves certain general rules concerning what is fit and proper either to be done or to be avoided.' (Smith 1759, 159). Also, individuals are normally situated in networks of kinship and friendship, proven trustworthiness and reputation for service: a good name is a commercial asset which the supplier and the demander have an economic incentive to keep in good repair. Internalised images and self-policing self-restraint are all around. Perhaps this is just as well since the paid enforcers will never be. As Fred Hirsch puts it: 'Only *I* can see everywhere I litter.' (Hirsch 1977, 139).

Social validation is vital: even acquisitive non-satiety, consumer sovereignty, the law of contract, the market mechanism itself, only enjoy perceived legitimacy because there is general consensus in the peer-group that they are somehow a part of a valued way of life. Consensus is the *sine qua non*. It is not, however, necessarily sufficient in itself. People violate even God's own Commandments where the bribe is judged to exceed the penalty. Economic logic is a high-powered thing.

Olson extends the pure theory of perfect competition to the microeconomics of avoidance, evasion, abstention and temptation. He establishes that there is a personal

incentive to be a free rider on the Good Samaritanship of the non-calculating where the size of the group is large and the impact of each hidden member minimal: 'The rational individual in the economic system does not curtail his spending to prevent inflation.... because he knows, first, that his own efforts would not have a noticeable effect, and second, that he would get the benefits of any price stability that others achieved in any case.' (Olson 1965, 166). Large groups are always and everywhere a tiger in the path. Not only is there the Olson-like fallacy of composition, there is also the anonymity and the invisibility that Durkheim defined to be the world-class university of *anomie* or normlessness. Only a part of economic interaction is situated in a skein of recurrent contacts and familiar faces. Where the trade is one-off and the partners are unlikely to meet again, there is little need to invest in a social capital that will never have the occasion to pay back an economic return.

In such circumstances there is a social failure and citizens turn to the State for the policemen and the law-courts that are the bulwark against the beggar-my-neighbour nihilism of force and fraud. Whether a social failure is also a market failure is a good deal more debatable. Protection can be privatised by means of locks, alarms, bars and guards: while it may be cheaper to depend on the government than it is to buy a dog, that argument is not so much a demonstration that shopping lets the nation down as it is a reaffirmation that the pecuniary trade-off is a high-powered thing. Housing estates, shopping precincts and city parks can be made into private businesses on the model of the lighthouse-capitalists who once threatened non-paying harbour-masters with the darkness that would drive rational shipowners to competing ports: no one would buy, rent or visit if the proprietor who owned the titles were unprepared to ensure adequate security for person and property. Binding arbitration can take the place of generalist adjudication: where the division of labour puts a premium on specialist knowledge, there is much to be said for recourse by consent to a trusted insider personally skilled in the trade. The lesson that must be drawn from myriad possibilities such as these is a simple one. The market cannot be said to have failed until it has been given the chance to succeed.

4. THE INFRASTRUCTURE

National defence and law and order are public goods, available to all if they are accessible to any. They are not the only goods said to have evaded the confines of supply and demand. The infrastructure of background facilities is an area of social life where ticketing of access is believed to be especially costly and unsatisfying. Where the State does not supply the street-lighting, it is argued, the pedestrian will have no option but to walk home in the dark.

Urban roads, historically speaking, have been a convincing case of a public good for which rationing by price would not be practical because of the transaction costs of toll-booths, administration and delay. Technologies evolve, however; and electronic beacons undeniably fill a market gap. One could say that the lump-sum incidence, regressive, falls more heavily on the poor than on the rich. One could say that road-owning profit-seekers will do what their monopoly of necessity would suggest and hold

out for all that the traffic will bear. Equity in the former case, exploitation in the latter, one could conclude that the road-industry would better serve the social purpose if it were run by the State than if it handed over to trade. In drawing that inference, however, what one would really be saying is that urban roads ought ideally to be supplied as publicly-provided goods. One would not be proving that they are ideal-typical *public* goods which for market capitalism will have little economic appeal.

Education and health further illustrate the way in which the supporting infrastructure can be regarded as a public good. Education and health are often treated as 'merit goods', wants 'considered so meritorious that their satisfaction is provided for through the public budget, over and above what is provided for by private buyers' (Musgrave, 1959:13). Paternalism is built into the notion that an agency other than the individual himself is believed to have the information needed to decide what is in the individual's own best interest: where the citizen would feel better off in his own estimation if given equivalent cash rather than a free-on-demand service, it must require exceptional skill as a persuader to convince him that he will reverse his ordering *ex post* once he has sampled the merit consumable and yielded to his addiction. Crucially, however, merit goods will also be public goods in the dual sense that the community derives utility from the knowledge that it has uplifted the beneficiary and from the fact that a subsidised spillover has upgraded the neighbourhood. The nation needs schooling so as to expand the pool of skilled manpower essential for our export-drive. The nation needs immunisation because infectious diseases have a tendency to spread. The benefits accrue to *us* and not only to *them*. Privatisation would crowd out the State where ambitious parents paid for their own children's training and health-conscious smokers converted to an apple a day. Under-consumption, however, would be the result where discrete individuals saw no reason to shoulder the full burden of the cost. Under-consumption, T.H. Marshall writes, is not merely the free citizen's personal choice: 'Your body is part of the national capital, and must be looked after.' (Marshall 1965, 91). Wanting the well-being, the State would then have no alternative but to get involved in supply.

Infrastructure is provided by the State where the businesses lack the incentive and the households lack the drive. Infrastructure is also provided by the State on the grounds that natural monopoly makes it risky for the goods and services to be delegated to exchange. Increasing returns and a forward-falling supply curve are major barriers to new entry. High fixed but low marginal cost means that the incumbent can be in a strong position to take full advantage of an inelastic demand curve without the fear that its windfall will be contested by interlopers. This is an important reason why public utilities like water-supply, telecommunications, rail transport and the electricity grid have so frequently been nationalised in order to be operated as State-owned corporations accountable directly to the scrutiny of Parliament.

5. REGULATION

A nation that does not want to buy out private property-rights still has the opportunity to influence the use that is made of those socially-validated licenses and permits.

Situated between unalloyed socialism and unbridled business is the compromise of regulation that steers the ship along the required course.

Thus a nation that is concerned about natural monopoly might retain private ownership but set up a commission to supervise the price. Its task will not be an easy one. Where marginal cost is less than average cost, the perfectly-competitive standard of $P=MC$ will involve the State in subsidising the loss. Where the regulator opts for $P=AC$, the mechanistic mark-up will always be a disincentive to cost-minimisation since the only reward will be a cut in price. Regulatory capture converts society's watchdogs after an acclimatisation-period into a lobby for the industry they are in place to keep in check. All things considered, Milton Friedman writes, the cure might actually be worse than the disease: 'I reluctantly conclude that, if tolerable, private monopoly may be the least of the evils.' (Friedman 1962, 28). Political economy, here as elsewhere, retains the vital brief of weighing the gains against the losses that the different policy-options will occasion.

Regulation can also be deployed to limit what the Sherman Act of 1890 calls the 'conspiracy in restraint of trade'. Laws can outlaw formal cartels and tacit follow-the-leader arrangements that fix prices or apportion quotas in such a way as to maximise the profits of an oligopoly colluding *de facto* into a single-seller monolith. Laws can prohibit mergers intended to consolidate market dominance, ban predatory undercutting and exclusionary long contracts, prohibit pernicious product-tying and resale price maintenance. Laws can break up a giant firm into a multiplicity of viable competitors, shorten a patent to facilitate the challenge of generics, ensure an open road through the 'common carrier' principle of universal access. Such legislation, precisely like the repeal of a tariff, is pro-competitive and not anti-competitive. Regulation here helps the free market to become more fully itself.

Regulation can, of course, be overtly anti-competitive as well. The minimum wage arguably reduces job-openings for new entrants and the sub-proletarian unskilled but it also ensures a decent standard of living for the sweatshop poor in work. Rent controls arguably reduce the number of housing units available to let but they also meet the community's requirement that long tenancy must create a moral right to one's home. Maternity leave, on-the-job training, health and safety minima – all of this comes under the rubric of intervention implemented not so much to improve productivity and accelerate growth as to put teeth into the perception that there is more to fairness than is picked up by the economist's equation of the willingness to pay with the willingness to sell. As the intensely *political* economist Tawney once put it: 'The mother of liberty has, in fact, been law.' (Tawney 1949, 169). Hobhouse, and still earlier Green, had been there before when he wrote that the new liberalism of freedom *to* had to be not the Gladstonian repeal of directives that crush out the spirit but rather an empowering hand up that made for 'the fuller liberty of the life of the mind': 'The function of State coercion is to override individual coercion.' (Hobhouse 1911, 203,71). The function of State coercion is to enable each of us to be free.

Regulation can be macroeconomic as well as microeconomic. Determined to contain inflation or to defeat involuntary unemployment, the State might turn to monetary and fiscal policy to restore the balance between demand and supply. Anxious

about the haphazard outcomes and the confrontational divisiveness of collective bargaining, the State might set up a tripartite commission to bring indicative planning to the settlement of wages. Convinced that free-market exchange rates destabilise business plans and import rising prices, the State might peg the international parity and use its currency reserves to lean against the prevailing winds. There is much that can be achieved where the State has good statistics on cause and effect, leads and lags, knock-ons and surprises. There is somewhat less that can be achieved where the future keeps its own counsel and unknowledge is the only certainty. A constitutional clause to fix the money-supply or to prohibit a budget deficit might in such circumstances more successfully smooth out the fluctuations in economic activity than would discretionary fine-tuning stumbling about in the dark. It is possible in addition that much of macroeconomic imbalance is the consequence of law-making itself and not *prima facie* the proof that the market has failed. Unemployment benefits which calm the worried mind and stabilise the level of total demand but also extend artificially the uneconomic slack of frictional job-search may be a case in point.

Individuals in a downturn respond rationally to the spectre of redundancy through an increase in their savings. What one can do, all cannot; since it is the paradox of thrift that an across-the-board fall in consumption would only make the feared recession that much worse. In macroeconomics and in microeconomics alike, the problem of dispersion and numbers is a major obstacle to the attainment even of a goal on which there is unanimity of consensus. Here too, however, the leaderly State can still succeed where unorchestrated spontaneity must fail. It can coordinate the moves and responses even of the autonomous and the ununited. A will save if all will save: the State makes saving mandatory. B will vote if all will vote: the State makes voting compulsory. Legislation in such circumstances leads directly to cooperation whereas decision-making in isolation will mean the dominance of a sub-optimal strategy. Yet it would be wrong prematurely to write off the invisible hand. Education for women and promotion in line with productivity raise the opportunity cost of a large family: it is the functional equivalent of a 'Stop at One' edict. The privatisation of public property causes the commons-capitalist to ration grazing-rights in such a way as to prevent the minus-sum depletion of the pasturage: it is the functional equivalent of a quota on the sheep. Coercion can contribute to the establishment of the highest-valued outcome. So, however, can commerce itself.

The State can impose order where the interests are the same: seasonal adjustment in the clocks and a directive on left-hand driving are illustrations of rules from which all members of the community stand to reap a welfare gain. The State can also impose order where the interests are in conflict. Externalities and spillovers are an illustration of the challenge. The smoking chimney means more medical bills and more laundry bills. The draining of a swamp means less malaria and less absenteeism. The former an over-supplied cost, the latter an under-provided benefit, it is often argued that the market will fail to allocate scarce resources with maximal efficiency in the absence of a wise and regulatory State.

Prescription is one way of dealing with the side-effects of other people's contracts. It is the reason why the State decrees ceiling-limits on CO₂ emissions and pesticide

residues. The State prohibits the dumping of radioactive waste in a local stream. It places preservation orders on historic buildings. It zones to exclude noisy factories from green-belt beauty spots. It compels all catering staff to undergo regular health checks and demands that all production-lines be fitted out with goggles and visors. Legislation, in short, is given a prescriptive role. It takes on the duty of ensuring that third parties and innocent bystanders are not made the victims of omission and commission occurring in the course of self-interested supply and demand.

Prescription is a command strategy; but that is not to say that it cannot be made compatible with exchange. It would be a useful compromise for the regulatory State first to re-design the incentive structure and then to rely upon market pricing to put subjective values upon the new set of rules.

One illustration of the compromise would be the sale by auction of licenses to congest, deplete or pollute. Here the State determines the allowable maximum of the agreed-upon diswelfare but leaves it to the private sector to allocate the entitlements in line with the willingness to pay. A dynamic outcome of the creation of a market in the right to despoil could be the adoption of less-polluting technology in an attempt to keep down the overhead of consent.

Another illustration of the compromise would be the internalisation of the externalities. Pigou observed that there could be a disparity between the private and the social calculus. Social costs exceed private costs in the case of driving while drunk: the motorist puts at risk not just his own life but the lives of others as well. Social benefits exceed private benefits in the case of education and training: the profit-seeker will rationally under-invest so long as the skills that he develops can move sideways to a rival. Concerned about an equilibrium that was not, unassisted, an optimum, Pigou therefore recommended taxes on bad neighbours ('uncharged disservices'), subsidies for spillover benefactors ('uncompensated services'), in such a way as to bring into line the net private and the net social cost-benefit relationship. (Pigou 1932, 191). What Pigou did not explain was how the relevant states of personal well-being – as perceptual as the nuisance value of ugliness, as objective as lives made shorter by lead in petrol – were actually to be measured in a real world where data is deficient. Nor did Pigou recognise the extent to which different people might have different preferences: if A is opposed to noxious effluent that threatens his enjoyment of swimming and fishing, then B is opposed to the loss of employment-opportunities which a cleaner environment would cost. Ronald Coase, sensitive to the information-gap and to the ordinal and cardinal disparities, is happy to treat Pigou on regulation as 'blackboard economics' that passes the time. Still, however, it is his conclusion that there is no way to convert fiscal socialism into practical policy in a real-world context where knowledge is the ultimate scarce commodity: 'Such tax proposals are the stuff that dreams are made of.' (Coase 1988, 85).

Coase, sensitive to the difficulties, is in favour not of State regulation but rather the privatisation of the choice. The proprietors of a new airport would have to offer compensation sufficient to buy in the agreement of the afflicted. The manufacturers of a wonder-drug would know that insufficient testing would be penalised by a class-action in the courts. The transaction costs of uniting a dispersed pool are admittedly high; and

redress by law-suit is in itself an expensive road to travel. Focusing on the benefits, however, it is Coase's contention that revealed preference and voluntary exchange have the advantage that they leave each individual the best judge of his own personal welfare. No government, however democratic, could be more in tune with the unique one-off than that.

Thus a doctor losing clients because of a noisy confectioner next door could offer to buy out some or all of the manufacturer's rights to the pursuit of an honest income (Coase 1960). A bee-keeper dependent on an adjacent orchard for the nectar from which his honey is made could contract with the orchard-owner to supply bees for pollination in exchange for apple-trees for blossoms (Meade 1952; Cheung 1973). Horizontal integration would ensure that marginal cost and marginal revenue were made equal for each of the component lines, the joint products. Coase's message, that rights (irrespective of the original endowment) are better traded by individuals than sequestered by their leaders, is not a new one. Workers have long been taking a view on the value of life that is right for them by negotiating a danger-differential for deep-sea diving and building at heights. Consumers have long been operationalising their trade-off of money for injury by travelling cheaply in unlicensed taxis and playing sports which carry a small but non-negligible risk of paralysis or death. Coase would suggest that regulation should not be so intrusive as to deprive the individual of the freedom to make choices such as these. In Hillman's words: 'We can think of externalities as reflecting missing markets... Private ownership can rescue a society from the tragedy of the commons.' (Hillman 2003, 233).

Yet the social interest cannot always be entrusted to dyadic reciprocation alone. A is willing to chance his money in a bank that makes speculative investments – but the failure of the deposit-taker has ripples that go beyond its own sub-set of risk-loving customers. B is unafraid that he will be deprived and corrupted when he watches a violent film – but the position is different when the under-age and the impressionable are attracted into copy-cat crime. Social values are hostile to vote-selling even in elections where the citizen has no personal preference. Social values are unsympathetic to child labour even if the families denied the wages go hungry as a result. Directives to favour disadvantaged minorities, restrictions to censor inflammatory racism, are, no doubt, non-price constraints on the sovereign consumer's valued freedom to shop. Social values, however, have other ends besides efficiency; and so do philosopher-rulers in the sense of Plato who, omniscient and beneficent, have the wisdom to recognise a hidden need. Whether leading the consensus or following it, what is clear is that there can be State regulation that goes beyond the minimal scenario of good title protected and enforced.

6. WELFARE

Economic theory concentrates on the choices made within the tramlines of effective demand. It has little to say about the felt utility of would-be maximisers who lack the money to pay. Political economy, in contrast, takes on board the distress of the

deprived and the excluded when they cannot reach the social or even the physical minimum.

Some people fall into dependency as a life-style choice: illustrations would include irresponsible parenting in excess of resources, self-selected unemployment as an alternative to work, self-inflicted incapacity brought on by drug addiction and live-for-today promiscuity. Other people become dependent on others through no fault of their own: where a job simply cannot be found, where a dread disease has exhausted the family's capital, where a businessman loses his home because the bailiffs foreclose on his loan, where an old person who has outlived his savings cannot afford to keep warm in the cold, there it is more difficult to say that the undeserving poor have only themselves to blame for their distress. It is in any case too late to reverse the causality when a neglected child is dressed in rags and a driver who did not wear a seatbelt lies bleeding in the wreckage by the road. Bygones are forever bygone and we start from here. One consequence is that the safety net of the friend in need is always and everywhere vulnerable to the blackmailer who seeks to travel free on the compassion of the committed, the unquestioning and the generous. There is a lot of ruin in a *Gemeinschaft*.

Ex post the only alternative to assistance is for the community to refuse to get involved. *Ex ante* a welfare-minded State has more discretion in proposing measures that will nip the vicious cycle in the bud. Macroeconomic policies that ensure full employment invest in self-respect by guaranteeing the self-reliant the chance to earn and achieve. Lifetime retraining schemes and minimum entry-barriers keep down the structural unemployment that separates one pay-cheque from the next. Compulsory savings-plans force even the less frugal to defer gratification into their retirement years. Compulsory health-insurance gives each citizen a premium-based entitlement that serves as a cushion against the vicissitudes of accident and illness. *Ex ante* prevention must, in short, be regarded as fulfilling the same function as *ex post* relief. Picking up the pieces is welfare after the storm. A stitch in time is a humane alternative that reduces the incidence of shattered lives.

Yet there will always be contingencies for which generalised home-ownership and universal free education will not be the safety-net that breaks the fall. It is in the circumstances of just such a welfare vacuum that there will be a voiced demand for a welfare State. Theorists of self-interest will defend the multi-period constitutional shield on the grounds of the thick veil of ignorance that conceals what the future has in store and makes each anxious risk-averter a leveller and an insurer out of fear: 'Social and economic inequalities are to be arranged so that they are.... to the greatest benefit of the least advantaged.' (Rawls 1972, 302). Theorists of sharing and altruism will defend the payment of benefits in cash and kind on the basis of empathy, sympathy, the 'biological need to help' (Titmuss 1973, 223) and the observed fact confirmed by blood-donation that the integrated members of the national family care passionately even about fellow-beings whom they will never meet: 'To "love" themselves they recognized the need to "love" strangers.' (Titmuss 1973, 269; Reisman 2005, 291-4). Private charity is unpredictable and subject to under-subscription by virtue of the public-goods problem of insignificance in a crowd. It can also be shaming, stigmatising and

judgmental, felt to be an unwelcome intrusion into private grief at the very time when the self-image is most under threat. Thus it is that people, some driven by anxiety into compulsive maximin, others encouraged by kind-heartedness to obey the Golden Rule, turn to the State for the actualisation of their welfare rights.

7. GOVERNMENT FAILURE

Economics, formulating its theories in the language of market exchange and not the discipline of the barracks, is nonetheless open to political tinkering where supply and demand are believed to have fallen short of the attainable potential. The two-stage approach has a bias that is reminiscent of religion. When man fails, he turns to God. God is omniscient and benevolent. God is our refuge of last resort. God will never let us down.

In God we trust. The State, however, need not be as reliable or as self-denying an ally. Just as there can be market failure, so there can be government failure. The most that can be said *a priori* is that the sensible community will select the tool most likely to deliver the desired end. It may or may not be the market. It may or may not be the State.

Uncertainty and ignorance can leave the social engineer without a tried-and-tested plan. The market is a discovery process, a graveyard of experiments and bankruptcies even as it is a playing-field in which luck, intuition, judgement and competence can score the winning goals. Without the market's signals the State will often lack essential information on the nature and strength of consumers' wants, on the opportunity costs that are the *sine qua non* for maximisation by means of trade-off. Economic planning is handicapped by the shortcomings of science. No planner in any case can ever be wise enough to predict the opportunities and challenges that to-be-created history holds up its sleeve.

The State can lack knowledge. It can also lack probity. People attracted to the exercise of power are often natural bullies. Self-righteous and opinionated, they are the very members of the society who are the most to be feared when they accede to the monopoly of force. Money too can lead to public policies and public expenditures that are seriously at variance with anything the social consensus would validate as the national interest. A road is built in a desert where a cabinet minister is hoping to open a hotel. A contract is given to a computer-firm in which the president's brother holds a controlling interest. Money in economics makes the world go round. People are people even when they work for the State.

Politicians and civil servants in some countries are notorious for their corruption, nepotism, graft, kickbacks, cronyism, bribery, favouritism. Their licenses, rebates and exemptions are the best that money can buy. In other countries, of course, the elected and the appointed are led by checks and balances in the constitution, by a rigorously-independent corrupt practices bureau, by a multiple audit of all receipts and disbursements, by a public-service ethos of self-policing workmanship, by a fear of exposure in the press and in the Assembly, to keep their selfish greed within the limits defined as acceptable by their fellow citizens. There is no law that can ensure the

concentration of power in the hands of the honest to the exclusion of the opportunistic. Democracy at least relies upon the economic logic of market competition to keep down the windfalls and the rents that might otherwise accrue to a monopoly supplier.

Yet democracy as a system builds in distortions of its own. Because it is rational to be under-informed about areas in which one has no significant stake, economic policy will be biased away from consumers who spend on many products and in favour of producers who earn in one industry alone. (Downs 1957). Because interest-groups and privilege-seekers lobby together for their own special cause, economic policy will reflect the needs of the vocal more than it will the interests of the unassociated. (Olson 1982). Because preference-ranking can be disparate and irreconcilable, economic policy can be subject to cyclical churning as neglected voters strive forever to replace an incumbent coalition. (Arrow 1963). Because office must be earned through voter-pleasing intervention, economic policy is exposed to a political business-cycle when Machiavellian maximisers go for austerity just after one election and then for expansion in the run-up to the next. (Alt and Chrystal 1983). Because citizens welcome public spending but are resentful of higher taxes, economic policy will shunt the burden of the current cohort's pleasures, via borrowing and deficit finance, on to an unconsulted future that will have to pay the cost. (Buchanan 1960). Corrupt politicians buy votes with cash. Democratic governments bribe a marginal constituency with a new airport that the nation as a whole does not need and cannot afford.

The market, whatever its failures, does not compel absentees to settle other people's debts or supply a product for which there is no groundswell of demand. It is precisely because decentralised exchange screens out the imperfections of democracy and of autocracy alike that the market recommends itself so strongly to political minimalists, prepared to countenance the loss of good policies if the slimmed-down agenda is able also to prevent the apocalypse that would be brought about by a megalomaniac like Napoleon or a madman like Hitler. There is a certain logic in the argument that a life-saving wonder-drug ought to be banned from the start because of the remote but real possibility that in the wrong hands it would be used as a murder weapon to cleanse away a minority tribe. A more pragmatic position would, however, be to minimise the ideological *a priori*s and to evaluate each set of opportunities and risks on its own merits alone. The market, reliable as it so frequently will be, is particularly prone to under-performance in areas such as national defence, law and order, the infrastructure, regulation and welfare; and there it might make good economic sense to invite the State to complete the circuit. The most important concept in political economy is the *and*. The most important asset in the study of the mixed economy is an open mind.

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David Reisman is Professor of Economics at the Nanyang Technological University, Singapore, and Professor Emeritus of Economics at the University of Surrey, UK. He is the author of *Schumpeter's Market: Enterprise and Evolution* (Elgar, 2004), *The Institutional Economy: Demand and Supply* (Elgar, 2002), and a number of other books and articles.

David A. Reisman
Professor of Economics
Nanyang Technological University
Singapore
aardavid@ntu.edu.sg

EXPLAINING CREDIT PROBLEMS IN THE U.S. CONSUMER DURABLE GOODS INDUSTRY IN THE 1930'S: CREDIT CHANNEL OR BANK LIQUIDITY PREFERENCE?

Christopher Brown

Arkansas State University

ABSTRACT

Argument is made, contra Temin, that the recovery of the consumer durable goods industry in the 1930's was stalled by a breakdown in markets for dealers' inventory financing and consumer installment credit. The Friedman-Schwartz-Hamilton-Bernanke view holds that durable goods sector credit problems in the Depression were linked to Federal Reserve tightening measures via the "credit" channel of the transmission mechanism. The view is expressed that, though the FED could have done more to ease conditions, congestion in markets for wholesale and retail finance developed for reasons largely unrelated to the prevailing course of monetary policy. A shift, beginning in late 1930, in the average preference of banks for liquid and/or re-discountable portfolio assets, or a change in bank liquidity preference, is interpreted to be a primary cause of diminished credit available to durable goods retailers and buyers during the 1931-33 period. The bank liquidity preference hypothesis is supported by data on the shifting composition of bank assets in favor of investment grade securities, a fall in the ratio of loans to deposits, a steepening of the Treasury yield curve, as well as the time path of high-powered money after 1930.

JEL Classification Codes: N22, E21, E44

Key words: *Great Depression; Liquidity Preference; Credit Channel*

Credit is the pavement along which production travels; and the bankers if knew their duty, would provide the transport facilities to just the extent that is required in order that the productive powers of the community can be employed to full capacity.

J.M. Keynes, *Treatise on Money*, II, 220.

1. INTRODUCTION

The nature and significance of monetary factors in business cycle fluctuations is an especially difficult and controversial issue. A constitutive principle of the New Classical economics is that changes in the quantity of money not fully anticipated by agents are capable of (temporarily) dislodging the economy from its long run growth path (see Lucas 1977). For all its formal elegance, the New Classical approach is subject to the criticism that, in its strict reliance on noisy price signals to produce non-neutral money, it ignores much of what is known about the real world connection of monetary factors to

the pace of production and exchange. For example, it is widely understood that a vast number of small businesses (and indeed, many larger ones) could not survive without the continuous renewal of loans which enable these units to bridge the interval between the disbursement of factor costs and the receipt of income from the sale of goods or services. It is also known that a sudden change in the policy of lenders with respect to revolving and installment credit is likely to have an impact on expenditure for consumer goods.

That monetary policy is passed to real output and employment through a “bank lending” channel is the substance of the “credit” view of the transmission mechanism. (see Bernanke and Gertler 1995). The argument is made here, contra Temin (1989), there is solid evidence to indicate that the recovery of the U.S. consumer durable goods industry in the 1930s was stalled by a breakdown in markets for dealers’ inventory financing and consumer installment credit. Does it follow that the prolonged slump of consumer spending in the Depression was caused by FED tightening? The purpose of this article is to argue that, although credit problems *were* a significant cause of the protracted slump in spending for consumer durables in the 1931-33 period, and that the FED could and should have done more to stabilize the situation, these problems nevertheless developed for reasons *largely unrelated* to the prevailing course of monetary policy.

Rising *bank liquidity preference* is defined as an increase in the average preference of commercial banks for assets which offer high liquidity and low capital uncertainty. The claim is made here that a change in bank liquidity preference can come about exogenously—meaning, independent of any shift in the course of monetary policy. It will be argued that pervasive non-price rationing of wholesale and retail credit in the first half of the 1930s was the repercussion of a seismic, and *exogenous*, shift of bank liquidity preference that commenced in late 1930.

The article is organized in seven sections. The credit view of the transmission mechanism is briefly summarized in section 2. The concept of bank liquidity preference is developed in section 3. Section 4 describes the behavior of the consumption series in the Depression. Section 5 examines the importance of non-price credit rationing in holding back the revival of spending for automobiles, appliances, and other big ticket consumer items after 1930. Section 6 weighs the evidence in favor of alternative explanations of credit rationing during the period. Concluding remarks are contained in section 7.

2. THE CREDIT CHANNEL

How is monetary policy transmitted to real output, employment, and the price level? These questions have attracted an immense expenditure of intellectual resources.¹ In contrast to standard interpretations of the transmission mechanism which rely on interest rate (or cost of capital) effects, wealth effects, exchange rates, or unanticipated

¹ For a brief summary, see Mishkin (1995).

money or inflation, the credit view holds that monetary initiatives have real effects primarily because they alter the scale of bank intermediation.

The simplest formulation of the credit channel presupposes that bank lending activity is constrained by reserves, or high-powered money, a magnitude the monetary authority is thought capable of influencing. A “central” bank is one so immense, with so many assets, that it has the power to force *all* other banks into “adverse” or “favorable” clearings by the expedient of open market operations (see Neale 1981). An adverse clearing for the banking system as a whole (induced by the sale of securities by the central bank) means that, at clearing, banks *overall* suffer a decrease in deposits (and reserves).² The monetary authority has “withdrawn” reserves from the system, or reduced the monetary base—hamstringing banks that seek to accommodate the demand for credit.

Bernanke and Gertler (1995; 1999) have presented a more sophisticated version of the credit channel—one that applies to a system where banks can always attract new deposits at *some* price. The *external finance premium* (EFP)—the difference between the cost of funds raised externally and the opportunity cost of internal funds—is the key variable. The EFP ostensibly measures the deadweight cost associated with the principal-agent relationship that exists between lenders and borrowers. Monetary policy impinges on the EFP via two channels (1): the balance sheet channel; and (2) the bank lending channel.

In theory, the EFP should diminish as the quality of firms’ balance sheets improve. The balance sheet channel is based on the proposition that policy initiatives (such as open market operations) can have a wide ranging impact on asset prices (not restricted to short-dated gilt-edged issues or near monies, but also including longer dated bonds and equities) and thus the quality of firm balance sheets. As decisions by firms to acquire *new* tangible capital are partly conditioned by balance sheet factors (or the EFP), fluctuating quality of firm balance sheets can propagate business cycles through the “financial accelerator” (Bernanke and Gertler, 1989).

The bank lending channel is of more direct relevance to the current inquiry. The EFP arises from informational problems in loan markets (evaluation costs, monitoring and collections, and the “lemons” premium). Bernanke and Gertler (1999, 20) explain that:

A decline in asset values reduces available collateral, leads to an unplanned increase in leverage on the part of borrowers, and impedes potential borrowers access to credit. Financial intermediaries, which must maintain an adequate ratio of capital to assets, can be deterred from lending, or induced to shift the composition of loans away from small business.

² In the ordinary course of banking, some banks will experience favorable and others adverse clearings. The interbank reserve (federal funds) market enables the redistribution of reserves from those banks with favorable clearings to those which experience adverse clearings.

The effect described above by Bernake and Gertler can be treated analytically as a shift of the supply of credit. Other things being equal, the change in the supply of credit causes the EFP to rise and thus actuates a contraction of borrowing.

3. BANK LIQUIDITY PREFERENCE

G.L.S. Shackle has described the theory of liquidity preference as “Keynes’s most inalienable piece of original economic thought” (Shackle 1967, 14). Liquidity preference is the formal means by which important institutional sources of macroeconomic instability are incorporated into the Keynesian system. Keynes argued that the evolution of markets for industrial securities was crucial in terms of facilitating the rapid accumulation of tangible capital goods in the modern industrial era. By furnishing the individual wealth holder with the opportunity to convert financial assets to money at short notice, such markets served to reconcile the desire of the public to hold wealth in liquid form with the fundamental illiquidity of man-made instruments of production.³ Heightened uncertainty about future economic conditions (or about the possible movements in financial asset values) is manifest in a general “flight to liquidity” which, as was stated above, is made effective by the development of institutions and market-making systems which render securities liquid on a continuing basis. Rising liquidity preference is therefore capable of bringing about a change in the structure of securities prices and yields. As will be argued subsequently, the decision of commercial bankers to hold their portfolios in more or less liquid form has implications not only with respect to financial asset prices, but also with regard to the price and availability of bank-intermediated finance.

What is meant by the term *bank liquidity preference*? The phrase is used here to connote the average preference of commercial banks for portfolio assets which offer a high degree of liquidity. What are the salient characteristics of bank assets which render some more liquid than others? One obvious factor is marketability—that is, do well-developed secondary markets for the asset exist? Another attribute which belongs under this heading would be the eligibility (or ineligibility) of the asset for rediscount at the Federal Reserve discount window.

A third factor is less obvious, namely, does the asset confer on its holder refuge from what Joan Robinson (1979) defined as *capital uncertainty*? Endeavoring to refine the concept of liquidity preference, Robinson noted assets were differentiated in terms of

uncertainty of future capital value, or capital-uncertainty for short, due not to any fear of failure by the borrower but to changes in capital values owing to changes in the ruling rate of interest. (This is the main ingredient in Keynes’ conception of liquidity preference. He regards the rate of interest primarily as

³Keynes wrote that “the question of the desirability of having a highly organized market for dealing with debts presents us with a dilemma. For, in the absence of an organized market, liquidity-preference due to the precautionary motive would greatly increase; whereas the existence of an organized market gives an opportunity for wide fluctuations due to the speculative motive” (Keynes 1936, 171-172).

a premium against the possible loss of capital if an asset has to be realized before its redemption date) (Robinson 1972, 140).

The factor that makes short dated Treasury issues a nearer cousin to (narrowly-defined) money than, say, shares listed on the New York Stock Exchange is not necessarily the superior marketability of the former asset as compared with the latter. Rather, it is the lesser degree of capital uncertainty attached to Treasury bills *vis á vis* equities. Projected into the institutional context of bank portfolio management, rising liquidity preference means a shift in the desired composition of bank assets in favor of narrowly-defined money and near monies such as government securities at the expense of less liquid assets such as agricultural, real estate, mortgage, small business, and consumer loans.⁴

Several factors may serve as a catalyst to rising bank liquidity preference. Interest-bearing liabilities of banks tend to have short maturities and their yields tend to move in sympathy with rates offered by commercial paper, Treasury bills, and other short dated instruments. If there is a maturity imbalance between liabilities and banks' holdings of securitized assets, an increase in the spread between long and short-term rates (or a steepening of the yield curve) would increase the effective return to holding securities, and thus make marketable assets more attractive in comparison to loans. Deteriorating macroeconomic conditions may adversely affect the assessment of banks with respect to the creditworthiness of current and prospective borrowers and therefore raise the subjectively-formed appraisal of lenders' risk attached to loans. Note also that fluctuating asset prices (of real estate, land, or equities) are likely to modify bankers' (subjective) appraisal of capital uncertainty attached to the *existing* portfolio of loans, since these things often serve as collateral. Banks are likely to put greater emphasis on liquidity in reaction to heightened regulatory zeal. Also, bankers will naturally desire to have their portfolios concentrated heavily in securities and re-discountable notes if public confidence in the financial system is wavering.

The state of bank liquidity preference is subject to episodic shifts which may have no direct connection to the prevailing course of central bank policy. Indeed, a desire by the monetary authorities to ease credit conditions can easily be frustrated by a mounting appetite for liquidity by banks. A fairly recent example of this phenomenon is given by the U.S. credit crunch in the Spring and Summer of 1991. Attempts by the Federal Reserve Open Market Committee to ease credit conditions in the Spring of 1991 were successful in putting downward pressure on the yield of short dated securities. However, long-term rates did not fall in sympathy. By rolling over short dated liabilities at lower yields, banks were able to increase their "margins" on holdings of longer dated government securities.⁵

⁴The use of *derivative instruments*, whereby a money manager has the option of selling a market basket of financial assets at a specified price at a future date, is strategy to hedge capital uncertainty suited to the needs of institutions (such as pension funds) with immense and diversified holdings. See Rubinstein (1987).

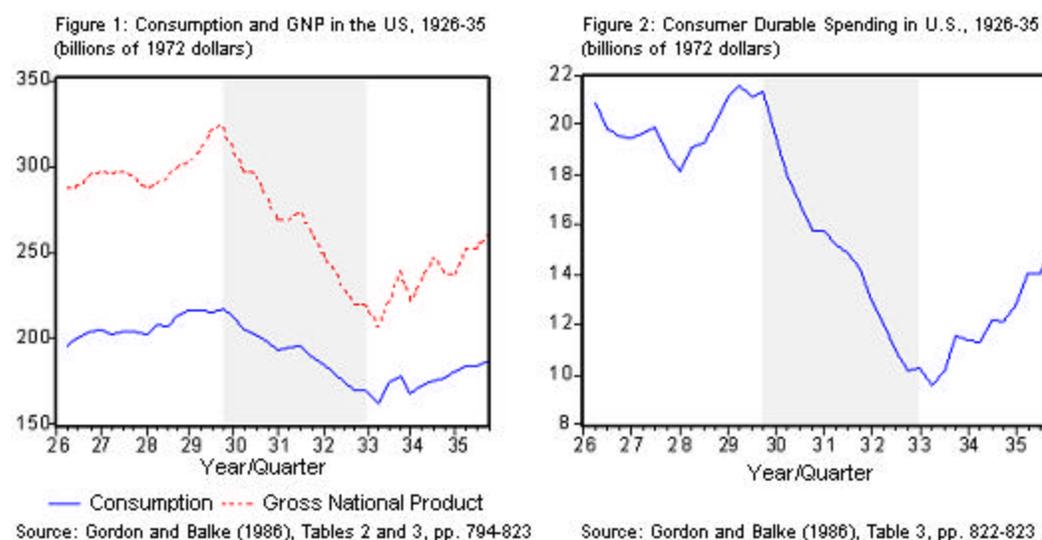
⁵ See Greenspan (1991) and Bernanke and Lown (1991).

Note that a decision to make portfolios more liquid can be executed only gradually, since banks are typically “locked-in” to sizable positions in loans with remote maturity dates. The immediate effect of rising bank liquidity preference is therefore a contraction in flow of new loan extensions. Modeled in a partial equilibrium framework, rising liquidity preference would ostensibly be represented by a shift of the “supply of bank finance” schedule in interest rate-credit space. The interest rate or price of bank credit would, in theory at least, adjust to bring the demand for bank credit into equality with supply. However, there is wide support in the monetary literature for the supposition that the interest rate is *not* a rationing device in the market for bank finance.⁶ Loan market transactions are unique in that the “seller” faces the possibility of default on the part of the issuer of the IOU as a consequence of the disappointment of expectations or moral hazard. Thus, there is always an unsatisfied fringe of notional borrowers. It is useful to think of the population of borrowing agents as being arranged in a hierarchy or queue, their position relative to each other being determined by their credit ratings. Agents on the bottom rungs never get credit (at least in the above ground economy), even if general credit conditions are lax. Those in more favored positions, such as the Treasury and successful corporations, usually have their credit needs accommodated even in the midst of a crunch. As a practical matter, the most serious repercussion of rising bank liquidity preference is the crowding-out of borrowing units falling between those two extremes.

⁶See, for example, Stiglitz and Weiss (1981), who set forth model wherein non-price credit rationing can be interpreted as an *equilibrium* phenomenon. They define the equilibrium interest rate as the one which maximizes bank profits per dollar lent. Since lenders have incomplete information about the creditworthiness of prospective borrowers, the interest rate charged may affect the riskiness of the total loan portfolio. As such, lenders use the interest rate as a *screening* device: “The interest rate which the individual is willing to pay may act as [a] screening device: those who are willing to pay higher interest rates may be, on average, worse risks. . . . As the interest rate rises, the average ‘riskiness’ of those who borrow increases, possibly lowering bank profits” (393). Thus the interest rate which equates the supply and demand for credit may diverge from the interest rate which maximizes lender profits.

4. CONSUMPTION IN THE 1930S

The stylized facts of the Depression are well known. The National Bureau of Economic Research business cycle chronology designates August 1929 as the starting point of the “great contraction” that has its trough in March 1933 (the shaded areas in Figures 1 and 2). Domestic manufacturing output fell by about 56 percent. Estimates of Gordon and Balke (1986) indicate that annual spending for producer durable equipment declined to \$3.66 billion (1972 dollars) from a peak of \$17.4 billion. There was a comparable slide in production of consumer durable goods. The durable series peaked at \$21.35 billion and subsequently \$9.61 billion (annual rates) in 1933—a staggering 55 percent decrease in real terms (see Figure 2).



The originating cause(s) of the sharp turnaround of consumer spending in late 1929 and 1930 is a continuing source of dispute in the literature, though there is support for the view that the behavior of the durable goods series during this time can be interpreted analytically as a change in the *parameters* of the (Keynesian) consumption function as opposed to a passive movement along a “stable” function in income-consumption space brought about by a decline in autonomous spending (i.e., investment).⁷ Temin (1989, 43) writes that the decline in consumer spending in the year 1930 was “too large to be explained easily”. Mishkin (1978) claims that there was a change in the composition of household balance sheets in favor of illiquid durable goods in the years preceding the stock market crash and that households, by reducing spending for durable goods, sought to restore the desired liquidity to their balance sheets.⁸ Hall (1986, 252) explains the exogenous change in consumption by a

⁷ See Temin (1976, 71) for example—especially Table 8. Also see Hall (1986).

⁸ Mishkin also cited the depressing effect of consumer debt.

“random shift in household behavior towards less work and less consumption”. Romer (1990) attributes high significance to the stock market crash.⁹

Table 1: Consumption Expenditure in the 1919-21 Recession and “Phase I” of the Depression

Period	Change in Total Consumption (billions of 1972 dollars)	Percent Change	Change in Consumption of Durable Goods (billions of 1972 dollars)	Percent Change
Dec 1919 to March 1921	-\$8.46	-5.10	-\$9.34	-48.70
Apr 1921 to June 1921	\$7.77	4.96	\$1.77	18.00
Aug 1929 to March 1931	-\$23.35	-10.70	-\$6.16	-28.90
April 1931 to June 1931	\$1.64	0.84	-\$0.32	-2.10

Source: Gordon and Balke (1986), Table 3, 822-823

The consumer spending series during the great contraction can be subdivided into two phases: (1) phase I: the 20 months from August 1929 to March 1931; and (2) phase II: the 21 month period beginning in April 1931. Two factors militate in favor of such a demarcation. First, estimates of Balke and Gordon (1985) reveal that consumption expenditure (measured in 1972 dollars) actually *increased* by \$1.64 billion (or almost 1 percent) between April and June of 1931. Second, the behavior of the consumption series during phase I conforms reasonably well to the pattern displayed in the 1919-21 recession (see Table 1), though the “recovery” from the latter episode was stillborn. Thus the main problem to be addressed in this paper can be stated somewhat differently: why did the consumer spending slump of the Depression extend through the period designated above as phase II? The evidence points to a significant role for credit, or more precisely, a lack thereof.

5. CREDIT AND CONSUMER DURABLE SPENDING

Temin has argued if non-price credit rationing had been an important factor in the Depression, it should have revealed itself in the cross-sectional pattern of performance among business units. That is, the output of industries populated by small firms should have declined more than industries dominated by larger, more credit-worthy firms. But, says Temin, “[t]he cross-sectional pattern of industrial decline shows . . . that access to credit did not determine which industries declined” (Temin 1989, 53-54). Temin’s position does not take account of the fact that credit problems afflicting small business units are capable of reverberating back to large manufacturers if the latter are dependent on the former to sell their goods.

The development of a mass market for big-ticket durable items such as kitchen ranges, automatic furnaces, electric washing machines, refrigerators, and automobiles was a key structural change of the 1920s. Manufacturers such as Singer and General Motors quickly discovered that the successful marketing of expensive durable goods was contingent on the development of a wide-ranging and effective network of retail

⁹In contrast to the conventional approach working through net wealth effects, Romer claims the Crash was important because it contributed to uncertainty about future economic conditions.

distribution.¹⁰ Manufacturers encountered early stumbling blocks as they sought to upgrade retail distribution systems. Most durable goods dealers or franchisees were small businessmen who lacked the resources to finance inventories internally. The external finance needed to carry expensive inventories was not readily forthcoming from the banking system. As Martha Olney (1989, 385-386) explains, the general reluctance of commercial banks to accommodate the need for credit to finance dealers' inventories was a major problem in the inchoate phase of the automobile industry:

Until about 1915 dealers financed small inventories internally. But after 1915 the size of inventory increased and most dealers needed some form of external financing to carry inventories. Existing avenues for financing were inadequate. Manufacturers could not afford to offer direct factory credit and banks refused to offer adequate inventory financing because of the cancellation clause in the dealers' franchise agreement.

The successful marketing of durable goods also required the capacity to offer installment financing to the customer at the point of sale. In fact, the maturation of the consumer durable goods sector would have been impossible if not for the parallel growth of installment financing arrangements as well as a reconstruction of social attitudes toward consumer borrowing. The mushrooming use of consumer credit is a salient feature of the 20s. Consumer credit outstanding doubled in a six year span between 1923 and 1929. Much has been written about the importance of installment finance in stimulating the growth of the automobile industry.¹¹ The percentage of General Motors cars purchased on installment increased from 29.2 to 55.9 between 1920 and 1926.¹²

Direct participation of commercial banks in markets for wholesale and consumer finance was marginal prior to 1935.¹³ Specialized sales finance companies accounted

¹⁰ Alfred Chandler (1988, 230) argued the prevailing pattern of vertical consolidation in consumer durable goods industries, wherein firms such as Westinghouse moved downstream into previously non-integrated stages of production, could be explained by the inadequacy of existing systems of wholesale and retail distribution to the requirements of modern, high-volume production: "[V]olume producers of durable goods . . . discovered that the wholesaler was unable to handle the initial product demonstrations to customers, unable to provide the necessary consumer credit, and unable to provide continuing repair and service of goods sold".

¹¹ Rolf Nugent (1939, 93), for example, wrote that "the shortage of instalment facilities had put greater restraints upon the sales of automobiles than upon the sales of most other types of consumers' durable goods. The remarkable growth of instalment finance companies after the World War solved the problem of retail financing . . . From the beginning of 1922 to the Fall of 1929 the growth of passenger car sales was paralleled by an even more rapid growth in the number of instalment finance companies and in the net amount of retail automobile instalment contracts . . . held by these companies".

¹² This figure is taken from Kuhn (1986, 80).

¹³ Juster (1966, 56) attributed the "huge expansion of commercial bank participation in the consumer installment credit market after 1935" to "[l]egislation passed . . . to facilitate the financing of home improvements permitted the Federal government to guarantee up to 20 percent of the face value of home improvement loans; such loans were defined broadly enough to permit the inclusion of household durable goods".

for the majority of direct loan extensions in these markets. Though estimates indicate that there were approximately 1500 such companies in 1925, the industry was dominated by the “captive” finance units such as General Motors Acceptance Corporation (GMAC).¹⁴ Historical accounts reveal that the integration of durable goods manufacturers into the finance industry was motivated by a dissatisfaction with the performance of the banking sector in this sphere. A letter dated March 15, 1919 (the date of the public announcement of the formation of GMAC) from GM President William Durant to J. Amory Haskell, GMAC’s first president, contained the following comments:

The magnitude of the business has presented new problems in financing which the present banking facilities seem not elastic enough to overcome. . . . Hence the creation of General Motors Acceptance Corporation; and the function of that Company will be to supplement the local sources of accommodation to such extent as may be necessary to permit the fullest development of our dealers’ business (quoted in Sloan 1964, 303).

Ford formed its first finance unit (Universal Credit Corporation) in 1928 and then sold it in 1933. Kuhn (1986, 275) claims that Henry Ford’s aversion to credit had damaging consequences: “[W]hile Ford extensively integrated his firm, he kept the vital activity of credit provisioning outside his controlled sphere. He refused then to admit that the mass production and mass distribution of consumer durables--no matter how cheap--demanded mass finance to clear the market pipeline”.

Though their direct participation in markets for wholesale and installment financing was limited, banks nevertheless held the key to the system. Sales finance companies were highly leveraged as measured by the ratio of assets to capitalization. Lacking access to disintermediated markets for credit, the viability of these units was based on securing lines of credit at banks as well as the regularized discounting of consumer receivables by the commercial banking sector. Nugent (1939, 95-96) writes:

The very earliest instalment finance companies relied heavily upon the use of bank credit to supplement their working capital. Later, the principal instalment finance companies began to sell their short-term notes to banks, either directly or through commercial paper brokers. . . . The instalment finance company, therefore, was an intermediary agency . . . in the sense that it served to bridge the gap between the consumer and the commercial banks.

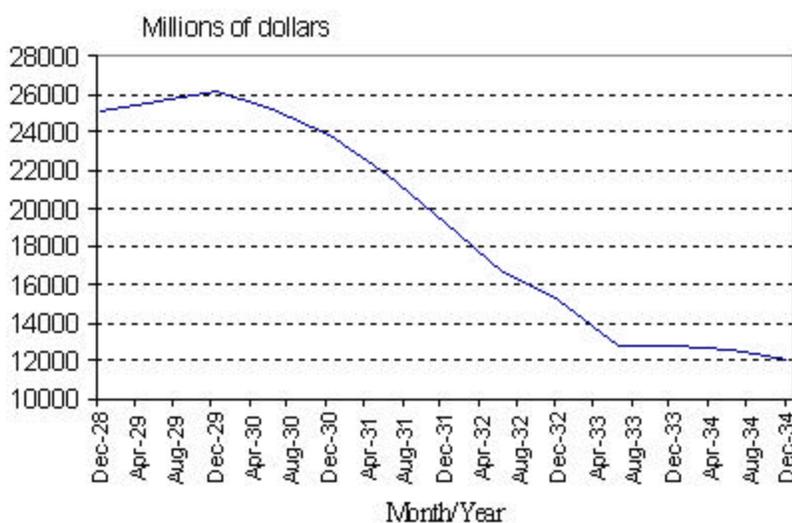
Taking into account the reliance of big manufacturers on a highly articulated network of small retailers (as described above), congestion in markets for wholesale and retail finance would almost certainly have slowed production of consumer durable goods. Moreover, there is strong evidence of pervasive non-price rationing of credit to small business during 1931-33. This evidence includes: (1) data on commercial bank loans

¹⁴See Olney (1987, 377).

outstanding; (2) data on consumer credit outstanding; (3) newspaper reports; (4) surveys; (5) the push to amend the Federal Reserve's Regulation A so as to make consumer receivables eligible for discount; and (6) the expanded role of the "captive" finance unit.

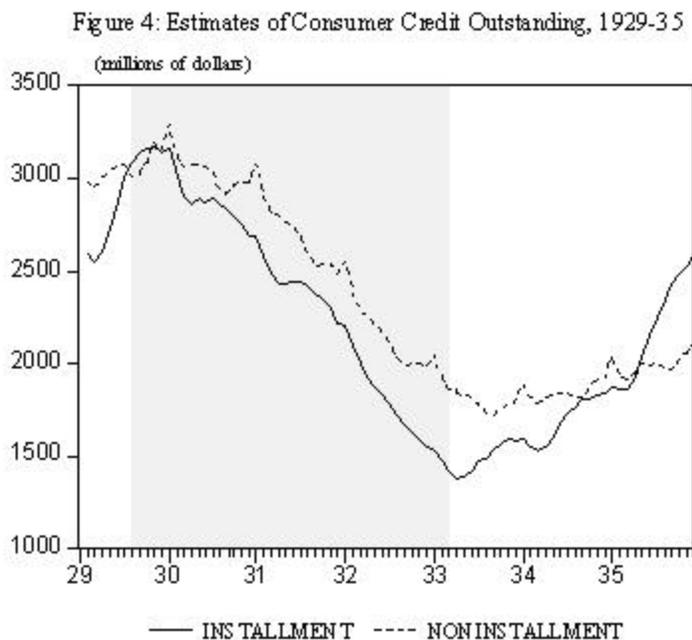
What is the precise meaning of non-price credit rationing in the present context? Specifically it refers to the withdrawal of credit (either partially or wholly) from business firms or households that previously enjoyed access to credit. Moreover, these agents are unable to find alternative sources of credit on any reasonable or economically viable terms. Figure 3 reveals that loans outstanding of federally-chartered commercial banks fell by 46 percent between December of 1930 and June of 1933. The trend indicated by Figure 3 gives circumstantial evidence in support of the rationing hypothesis, though one cannot know the relative importance of rationing versus a decrease in the demand for credit in explaining the fall-off.¹⁵

Figure 3: Loans Outstanding of Federally-Chartered Banks,
1928-34



Source: Board of Governors of the Federal Reserve System

¹⁵ Note that contracting current or planned output would lead, *ceteris paribus*, to a decrease in the money loans) related to the *finance* motive to liquidity. Davidson (1978) writes that "the finance motive [relates] the demand for transactions balances to planned, contractual, and *expected* spending propensities"(166).



Source: *Federal Reserve Bulletin*, April 1953, Table 7, p. 354

More evidence is provided by Figure 4, though again it must be pointed out that some part of the decrease in consumer credit outstanding likely resulted from a general reluctance of households to layer balance sheets with additional debt.

Newspaper reports of difficulties encountered by small business owners in renewing bank credits proliferated in the early 1930s.¹⁶ Complaints of unreasonable collateral requirements imposed by lenders were commonplace during this time. A report submitted to the Secretary of the Treasury in 1935 surveyed 2,600 actual or potential borrowers in Federal Reserve District Seven. The authors reported that there was a "genuine unsatisfied demand for credit by solvent borrowers. . . . The total amount of this unsatisfied demand for credit is a significant factor . . . in retarding business recovery" (Quoted in Stoddard 1940, 272). The Small Business Review Committee of the Department of Commerce completed a nation-wide survey of credit conditions facing small business (defined as firms with less than 150 employees) in 1938.¹⁷ Of the 6,000 firms which responded to questionnaires, 600 were designated for a special sampling based on their high credit ratings. Of this group, 45 percent reported difficulty in obtaining short-term loans for working capital purposes.¹⁸

It was earlier mentioned that eligibility for rediscount is an important dimension of asset liquidity. For notes eligible under Regulation A, the Federal Reserve Bank is the *de facto* "buyer of last resort." Throughout the 1931-33 period, sales finance company

¹⁶For example, see "Tight Credit Hits Retailers," *New York Times*, March 20, 1932, Section II, 19:4.

¹⁷*Report of the Small Business Committee*, U.S. Department of Commerce, March 1938. The study covered the period from 1933-1937.

¹⁸The results of this survey are summarized in Stoddard (1940).

complained of a change in attitude among bankers towards their receivables. A key factor making consumer receivables, or finance company paper backed by installment loans or short-term loans to dealers, unattractive to liquidity seeking banks was the ineligibility of these assets for rediscount. Prior to the Banking Act of 1935, Regulation A applied only to a narrow range of short-dated, "self-liquidating" instruments. As such, the Federal Reserve could not, by means of its discounting operations, be relied upon to stabilize the market for consumer finance under tight credit conditions.

That contemporary observers were concerned with the problem of credit rationing seems obvious from the broad effort to liberalize the Regulation A guidelines. For example, Herbert Hoover proposed a bill in November 1931 which would have made finance company paper eligible for rediscount. The National Association of Finance Companies (NAFC) had long favored such a change, but stepped up its lobbying effort in the early stages of the Depression. NAFC General Manager C.C. Hanch, speaking in support of the Hoover plan, noted that it would

have the desirable result of decreasing finance charges and thereby stimulating the purchase of installment goods. . . . It is important to make this paper eligible in case of emergency. Less than 10 percent of paper eligible now is rediscounted, but the banks need all they have and a great deal more as a reserve quickly convertible into cash.¹⁹

An emergency provision to Regulation A was adopted in 1932. It expanded the range of assets eligible for discount to include finance company paper, albeit with a special "penalty rate" which was one percentage point above the official discount rate. The emergency provision was made permanent with the 1935 Banking Act, and consumer installment paper was made eligible for rediscount in 1937.²⁰

An interesting aspect of our story concerns the role played by finance affiliates of the consumer goods manufacturers. As it evolved, the captive finance company (i.e., a finance company wholly owned as a subsidiary of a non-financial corporation) assumed the responsibility to act as lender of last resort of behalf of its parent company.²¹ If dealers found local sources of credit drying up, it was incumbent upon the finance affiliate to supply an alternative. The power of the captive finance units to "lean against the wind" was largely based on their capacity to circumvent the prevailing system of bank intermediation. The large majority of sales finance companies could not float commercial paper directly and hence found themselves at the mercy of commercial banks. The superior access of finance subsidiaries to disintermediated markets for finance is explained by their structural ties to the firms such as Westinghouse.²² The

¹⁹"Finance Companies Want Their Paper Eligible for Discount," *New York Times*, November 2, 1931, 32:1.

²⁰For a discussion, see Hunt (1940, 34-37).

²¹For a discussion of the role of the captive finance unit in stabilizing the auto finance market during the monetary contraction of 1980, see Brown and Viar (1990).

²²Banner writes : "In the market for funds, the captive finance company has better credit than most independent finance companies. Its affiliation with an important manufacturing firm is advantageous. . . .

finance company enjoying the strongest position was GMAC. In comparison to virtually any other durable goods manufacturer, GM had better success in keeping its dealer network intact through the Depression. Our period is coterminous with the displacement of Ford by GM as the leading automaker. GM's ascendancy is mainly explained by the effectiveness of the "mass-class" strategy pioneered by Alfred P. Sloan in a marketplace which by the late 1920s was dominated by replacement demand. However, as Kuhn (1986) and others have noted, that the fact the GMAC was at the time the largest and most creditworthy sales finance company in the U.S. gave its parent company a significant advantage over rivals in overcoming the credit problems of the early 1930s.

6. THE EVIDENCE

The main issue addressed in this article: should the non-price rationing of bank-intermediated finance that plagued the durable goods industry during 1931-33 be viewed as interstitial segment of the channel through which a contractionary monetary regime was relayed to real sector variables? Or, did congestion in markets for bank intermediated finance appear for other reasons—specifically those delineated in section 3 above?

How in theory might FED policy have influenced the scale of bank lending? Specifically we are seeking to uncover "credit channel" effects or factors that would make commercial banks less willing or able to purchase finance company receivables, or make direct loans to consumer goods retailers or consumers. Banks may fail to accommodate the need for credit due to: (1) a lack of creditworthiness (real or perceived) among potential borrowers; (2) a shortage (or prohibitively costly) reserves; and/or (3) a desire for liquidity.

There is no disputing that Federal Reserve policy became "highly contractionary" (Hamilton 1987, 147) in 1928 in reaction to gold outflows and what was perceived as excessive stock market speculation.²³ To the extent that FED selling of securities caused the stock market crash of October 1929 and ensuing spoilage of household and firm balance sheets, it may have contributed to the durable goods industry credit crunch by the pathway described by (1) above. This seems a tenuous link, however. It requires first of all that one assign a major responsibility to the FED in inciting the selling panic—something most economic historians are not willing to do. Second, we must believe that the balance sheets of specialized finance companies (whose assets consisted mainly of loans to dealers and consumers) were, as a result of the crash, damaged to the point of making these units nonviable borrowers in the assessment of bankers.

To be sure, the historical record supplies evidence of inept monetary management. For example, the FOMC resisted taking substantive action to stabilize credit markets in 1931 despite evidence of credit shortages in the immediate aftermath of the "first wave"

Credit policies that reduce the availability of credit will bear more heavily upon the independent than upon the captive firm" (Banner 1958, 249).

²³ See Friedman and Schwartz (1963, 290) and Temin (1993, 89).

of bank failures in December 1930.²⁴ Lester Chandler (1971) wrote that the “neutral” policy stance of the FOMC from July 1930 to August 1932 reflected the “liquidationist” views of its membership—that is, a painful process of debt liquidation was a necessary corrective for excessive credit expansion in 1928 and 1929.²⁵ “Real bills” adherents such as FED Governor George Norris opposed making financial assets or IOUs “backed” by other IOUs (such as finance company notes) eligible for discount. This policy had particularly unfortunate consequences for the durable goods sector. As was explained in section 5, the unbroken flow of credit extensions to durable goods merchants and buyers was enabled by the regular purchase of finance company paper by banks. Rising liquidity preference would have caused banks to eschew finance company receivables *even if* the quality of these assets had remain unchanged. With the benefit of hindsight, the policy respecting the rediscount of finance company receivables should have eased far earlier.

The aims and results of FED policy after 1929 are difficult to sort out. Let M denote the (nominal) money stock, H is high-powered money, R is bank reserves, D is bank deposits, and C is currency held. The following identity can be derived:

$$M \equiv H \left(\frac{\frac{D}{R} \left(1 + \frac{D}{C} \right)}{\frac{D}{R} + \frac{D}{C}} \right)$$

Note that $\partial M / \partial H > 0$; $\partial M / \partial (D/R) > 0$; and $\partial M / \partial (D/C) > 0$. The Friedman-Schwartz view is (apparently) supported by the fact that the money supply (M1 and M2) decreased sharply during 1931-33.²⁶ The standard view posits H as the Fed’s “control” variable. Therefore if the decrease in M was induced by Fed actions, this should have been revealed by a roughly coterminous decrease of high-powered money (H). But the evidence does not bear this out.²⁷ Says Hamilton (1987, 150):

[L]ooking at M1 or M2, policy was more severe in 1931-1933 than in 1921, whereas on the basis of the monetary base we might have regarded monetary policy as actually expansionary during 1931-1933.

²⁴Lester Chandler (1971, 154), writing about the FOMC meeting on January 21, 1931, noted that “all agreed that the depression was deepening, bond markets were weak, and foreign issues were virtually unsaleable in the American market. Yet no one advocated further purchases of government securities; the only question at issue was whether to sell, and if so how many and under what conditions”.

²⁵Lionel Robbins (1935, 62) on the liquidationist view: “All that is contended is that when the extent of mal-investment and over-indebtedness has passed a certain limit, measures which postpone liquidation tend to make matters worse”.

²⁶For example, Friedman and Schwartz (1963, Table A-1) report that M1 fell by 5.7 percent in 1931, 15.5 percent in 1932, and 6.1 percent in 1933.

²⁷See Friedman and Schwartz (1963, Table B-3). The cumulative growth of high-powered money during 1931-1933 was 13.9 percent.

December 1930 saw the failure of 352 banks (including the Bank of the U. S. with deposits of \$200 million). The New York FED reduced the discount rate and purchased \$123 million in securities. The FOMC shifted to a more neutral stance the following month. Britain's abandonment of the gold standard in September 1931 precipitated a massive gold outflow as central banks and others converted dollar-denominated deposits to gold. The FED reacted by raising the rediscount rate from 2½ to 3½ percent. Despite the rise in bill-buying rates, FED discounts increased to the highest levels since 1929. The FED commenced with large scale purchases of securities in April 1932.²⁸

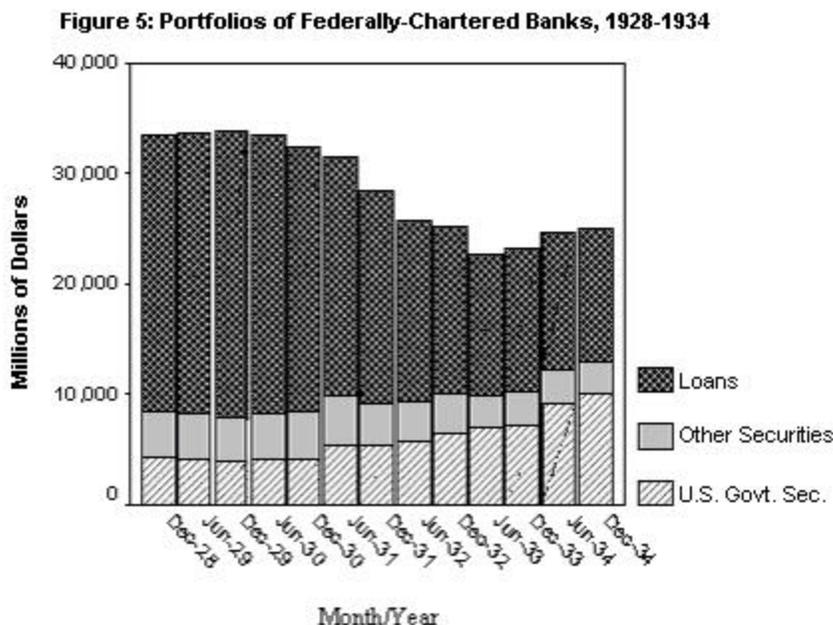
Bank runs occur because agents wish to substitute currency for bank deposits, so it is no surprise that that the *D/C* ratio fell off markedly in 1931. Chandler pointed out that “[b]y August 1931 currency in circulation was actually \$136 million above its level of 2 years earlier and \$471 million above its low point in 1930, this despite the continuing fall of economic activity” (Chandler 1971, 147). A rise in the monetary base does *not* necessarily signal an increase in the aggregate capacity for loan expansion if the composition of the base is rapidly shifting in favor of currency at the expense of bank reserves. But countervailing forces (e.g., gold inflows and open market purchases) prevented bank reserves from diminishing, and indeed the record shows that bank reserves increased slightly in 1931 and 1932 (See Chandler 1972, Table 10-1). Many banks evidently concluded that reserves were better used to decrease their liabilities to the FED (mainly loans and acceptances of the Federal Reserve to member banks) rather than make additional loans. Bernanke (1983, 264) noted that “fear of runs led to large withdrawals of deposits, precautionary increases in reserve-deposit ratios, and increased desire for very liquid and rediscountable assets”. Chandler (1971, 149) reports that some officials

commented with increasing frequency on the growing unwillingness of member banks to show in their statements borrowings from the Federal Reserve, and greater demands of banks for liquidity, and the unwillingness of banks to assume the risks involved in borrowing and lending.

Others have arrived at similar conclusions. For example, describing the ineffectiveness of expansionary measures in 1932, Kennedy writes that “outstanding bank credit did not increase, and business activity and prices of securities and commodities continued to decline. Once again the Federal Reserve had failed to

²⁸ The direction of FED policy during 1932 is disputed. Epstein and Ferguson (1984) argue that FED policy was expansionary in the Spring of 1932 but the FED terminated this course in the summer. Coelho and Santoni (1991) use weekly data on “bank reserves plus federal reserve notes in circulation” to support the view that “prior to March 1932 FED policy was restrictive; in the third week of March a policy reversal occurred, and the proxy for high-powered money grew (with minor interruptions) at a rapid rate until the end of 1932. The proxy grew at an annual rate of 17.1 percent for the rest of the year”(Coelho and Santoni 1991, 186). Lester Chandler (1971) designates August 1932 as the start of the FED monetary expansion.

convince bankers to abandon their conservative stance on lending" (Kennedy 1972, 47-48).



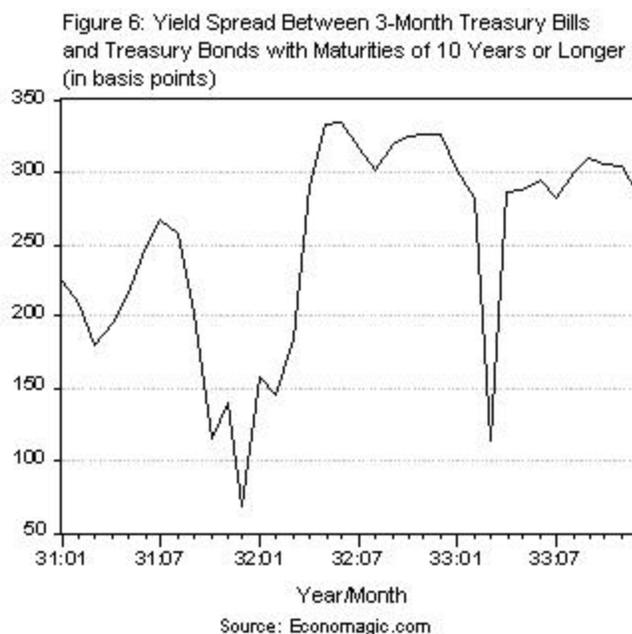
Source: Board of Governors of the Federal Reserve System

A general description of the shape of commercial bank portfolios in the period under study is provided in Figure 5. A discernable pattern emerges beginning in 1930. September of that year marks the starting point of a protracted decline in the (nominal) value of loans outstanding at federally-chartered banks. This trend takes place alongside an increase in the value of securities held. Loans were equal to 77 percent of (earning) assets of federally-chartered banks in December 1929. By June of 1933 that figure had slipped to 57 percent. Securities or "investments" as a percent of earning assets jumped from 23 to 43 percent during the same period. The sharp rise in the percent of bank assets accounted for by government securities is a well-known fact about the era.²⁹ A change FED policy can under certain conditions manifest itself in a change in the shape of the Treasury yield curve. While it is generally agreed that the FED can target the prices and yields of short dated Treasury issues, its influence over long term interest rates is more problematic (and certainly less predictable). A FED effort to drive down yields of Treasury bills would make the yield curve steeper if long

²⁹ Epstein and Ferguson (1984, 969) comment, for example: "By the middle of the Great Contraction, bank portfolios in many districts were beginning to assume a curious shape. . . . As loans and bonds became increasingly risky bankers looked around for ways to maintain earnings. In due course, they began to purchase larger and larger quantities of the safest asset that remained available in large quantities--short-term government securities. Whereas in 1929 investments made up less than 30 percent of member bank portfolios, by the end of 1933 they made up almost 50 percent."

term rates do not move in sympathy. Note also that an ascending gradient of the Treasury yield curve would render long dated Treasuries relatively more attractive to banks, *ceteris paribus*. This conclusion follows from the fact that the course of banks' costs tends to closely follow the yields of short-dated instruments, or what we refer to today as "near monies."³⁰ The record reveals, moreover, that both the yields of short-dated Treasuries and the average rate of interest paid by banks on time and savings deposits fell sharply between 1931-33 (See Gilbert 1986, Chart 2).

Figure 6 displays a proxy for the yield curve—the spread between yields of 3-month Treasury bills and bonds with maturities greater than 10 years (in basis points). Holding the (expected) return from making a loan constant, the reward for "parting with liquidity" (that is, making loans) is, from the banks' point of view, inversely related to the spread between interest paid on deposits and interest received on securities held. Thus one factor which may have prevented bankers from carrying out their essential function was a determination to remain liquid so as to take advantage of a favorable yield curve.



Though the pattern of rising bank liquidity preference in the study period is well-established, does it necessarily follow that this factor had the side-effect of producing congestion in markets for dealers' inventory financing and consumer installment credit? Taking into account the structure of these markets, and in particular the intermediary

³⁰ This assumes no restrictions on rates paid on banks' deposits are in place. The Regulation Q provision of the Banking Act of 1933 (Approved March 9, 1933) prohibited the payment of interest on demand deposits and authorized the Federal Reserve to set interest ceilings on savings and time deposits. The Banking Act of 1935 made nonmember banks subject to the same controls.

status of the sales finance companies, it strains credulity to suggest that the price and availability of wholesale and consumer finance could remain unaffected by the phenomenon described above. Such a conclusion would first of all imply that the steep fall in credit outstanding between 1929 and 1933 (see Figure 3 and 4), as well as the contraction in new extensions of consumer credit during that period, could be wholly explained by demand-side factors such as weak spending for items bought on credit or a broad effort to improve the quality of household balance sheets.

7. CONCLUDING REMARKS

To summarize the arguments made here: Credit problems were a significant factor in stalling the recovery of the consumer durable goods sector during the 1930s. Second, a change in the average preference of banks for liquid and rediscountable assets can arise independent of policy initiatives of the monetary authority. The evidence shows there was a shift in bank liquidity preference in the U.S. during 1931-1933, a movement which at various points ran counter to the thrust of Federal Reserve policy. Finally, rising bank liquidity preference had the effect of producing congestion in markets for wholesale and retail consumer finance beginning in late 1930.

The positions articulated above should *not* be interpreted to mean that monetary authorities are incapable of producing macroeconomic tumult via a credit channel. Certainly the U.S. experience in the spring of 1980 (as one example) supplies evidence of functional credit channel (see Brown 1993, Chapter 6). The viewpoints expressed here are at the same time consistent with a fundamental theorem of Keynesian economics—that is, the presence of an entity with the power to influence interest rates or overall monetary conditions is *not* a necessary condition for money to matter. In the case under study here, a largely exogenous shift of the public and banks into liquid assets—meaning, those things which provide refuge in an uncertain environment—caused an attenuated flow of credit extensions to consumer goods retailers and buyers. In the standard presentation of Keynes's theory, changing liquidity preference of the public impinges on rate of interest, and is relayed to aggregate expenditure provided that at least one component of spending (e.g., investment) is interest-sensitive. The experience of the 1930s illustrates that shifting *bank* liquidity preference can bring about changes of real output and employment because the general availability of finance is (partly) regulated by it.

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Christopher Brown
Professor of Economics
Arkansas State University
P.O. Box 729
State University, Arkansas 72467-0729
cbrown@astate.edu

Bilateral Trade Elasticities : Sweden Versus Her Major Trading Partners*

Abdulnasser Hatemi-J
Manuchehr Irandoust

*University of Skövde
University of Örebro*

ABSTRACT

This study explores the long-run bilateral trade elasticities between Sweden and its six major trading partners for the period 1960-1999. Tests for unit roots and cointegration in a panel perspective are conducted. The estimated cross sectional trade elasticities show that trade is highly sensitive to changes in income but less sensitive to real exchange rate fluctuations. The bilateral trade elasticities disclose that the Marshall-Lerner condition is not satisfied (except for Germany) and real depreciation of the Swedish currency has less favorable impact on the trade balance. The policy implications of our findings are also discussed.

JEL classification codes: F41; F43; C12

Key words: *bilateral income elasticity; bilateral price elasticity; the Marshall-Lerner condition; panel unit root; panel cointegration,*

1. INTRODUCTION

The development of trade prices and trade flows is important for the performance of small open economies. This is because changes in the price of traded goods affect the terms of trade and thereby the trade balance. Furthermore, the trade elasticities on a bilateral and long-run basis are relevant to designing trade policies and studying international linkages. Another implication of bilateral trade elasticities rests on the size of import and export demand elasticities and whether their absolute values add up to more than unity, a condition known as the Marshall-Lerner (M-L, henceforth) condition in the international trade literature. If it is the case, a depreciation of a home country's currency results in an improvement in the country's external trade balance.

Although, these elasticities also play an important role in predicting how the direction of international trade responds to changes in income and relative prices, they have received very little attention in the empirical literature. In addition to being scant and outdated, the empirical evidence on trade elasticities rests on non-stationary and

* We would like to thank Peter Pedroni for generously providing his program procedures that could easily be modified to make the estimations of this study regarding tests for panel unit roots and panel cointegration tests. Valuable comments of one anonymous referee are also greatly appreciated. Of course, we alone remain responsible for any errors.

aggregated data.¹ Examples are Kreinin (1967) Houthakker and Magee (1969), Khan (1974), and Marquez (1990). All these studies suffer not only from the aggregation bias (the exception is Marquez who estimates the trade elasticities on a bilateral basis) but also from the spurious regression problem. The application of conventional econometric techniques to non-stationary (integrated) time series can give rise to misleading results and erroneous inferences.

This study attempts to estimate the long-run bilateral trade elasticities between Sweden vis-à-vis six of its largest trading partners (Denmark, France, Germany, Norway, the UK, and the US) and for the period 1960-1999. The reason for the choice of this period is availability of the data used in this study. The methodology used here is the asymptotic theory of panel cointegration developed by Pedroni (1995, 1997, 1999). This study is the first attempt to test the Swedish bilateral trade elasticities using panel unit root and panel cointegration techniques. One of the major advantages of using a panel cointegration test is a significant increase in power when the cross-sectional dimension of the panel is expanded as compared to the well-known low power of standard cointegration test for small samples. Furthermore, the panel model allows for straightforward panel tests of model specification.

The organization of this paper is as follows: Section 2 introduces the empirical specifications. The estimated results are presented and interpreted in Section 3. Section 4 offers conclusions and policy implications. The methodology for panel unit roots and panel cointegration is described in the Appendix.

2. EMPIRICAL SPECIFICATIONS

Following the usual practice in the applied literature on the bilateral import and demand functions, we define the subsequent long-run specification in log-linear and panel form as:

$$\ln IMP_{i,t}^{SWE} = \mathbf{a}_i + \mathbf{b}_i \ln Y_{SWE,t} + \mathbf{d}_i \ln EXR_{i,t} + e_{i,t}, \quad \text{for } i = 1, \dots, N \text{ and } t = 1, \dots, T, \quad (1)$$

$$\ln EXP_{i,t}^{SWE} = \mathbf{a}'_i + \mathbf{b}'_i \ln Y_{i,t} + \mathbf{d}'_i \ln EXR_{i,t} + e'_{i,t}, \quad \text{for } i = 1, \dots, N \text{ and } t = 1, \dots, T, \quad (2)$$

where IMP_i^{SWE} = the Swedish real import from country i (Denmark, France, Germany, Norway, the UK, and the US); Y_{SWE} = the Swedish real income; EXR_i = real bilateral exchange rate between Sweden and country i defined as the number of SEK per foreign currency; EXP_i^{SWE} = the Swedish export to country i (country i 's imports from Sweden); Y_i = the country i 's real income. (See Appendix 1 for the definitions and sources of the data). N is the dimension of the panel and T signifies the time series dimension. In equation (1), if real depreciation is to reduce the Swedish imports, it is

¹ One exception is Bahmani-Oskooee and Brooks (1999) who have estimated the trade elasticities on a bilateral basis by applying Johansen's cointegration method to the US data.

expected that the estimate of δ is negative and if an increase in the Swedish income leads to an increase in the Swedish imports, the estimate of β should be positive. In equation (2), if real depreciation of the SEK, i.e., an increase in exchange rate, is to promote the Swedish competitiveness and thus her exports, the estimate of d' should be positive. Finally, if the income elasticity of b' is positive, this implies a rise in the Swedish exports to a given country due to the country's economic growth.²

The question of whether there is a long-run stable relation between three variables in the panels defined by equations (1) and (2) could be examined by panel cointegration analysis. One of the major advantages of using a panel cointegration test is a significant increase in power when the cross-sectional dimension of the panel is expanded as compared to the well-known low power of standard cointegration test for small samples. The panel model also allows for straightforward panel tests of model specification.

In order to see if the variables are cointegrated in a panel perspective (i.e., if there exists any long-run connection between the variables in the panel) we test first for the integration order of each variable in the panel. A variable is considered to integrate to order d , denoted $I(d)$, if it must be differenced d times to attain stationarity. For this purpose, we will make use of the tests provided by Levin and Lin (1993), Levin et. al (2002), and Im et. al (2003). If the variables appear to be integrated, we will utilize several test statistics introduced by Pedroni (1995; 1997; 1999). These test methods allow different individual effects across N or cross-sectional interdependency and take into account the off-diagonal terms in the residual long-run covariance and the effects of spurious regression in the heterogeneous panel. Pedroni argues different types of tests are appropriate for testing the null of cointegration in panel models with heterogeneous dynamics, fixed effects and heterogeneous cointegrating slope of coefficients.³

3. ESTIMATION RESULTS

The method conferred previously consists of two steps. The first step is to test the variables for stationarity by applying panel unit root tests. From Table 1, we can conclude that each variable for each country in the panel is integrated of the first order; $I(1)$. All three tests for panel unit roots give the same results. Thus, it is of paramount importance to test for cointegration in this case, because if the variables do not cointegrate there is not any long-run relationship between them and any estimated results based on the variables in the level form will be spurious. Since the variables are found to be non-stationary of the first order, we investigate whether the variables in each model establish any cointegrating long-run relationship. Based on Pedroni's tests for panel cointegration, presented in Table 2, we find strong empirical evidence for panel cointegration for the export function because all four tests reject the null

² We use the real bilateral exchange rate as a measure of relative prices since import and export prices on a bilateral basis are not available. The real exchange rate is also used by other authors as a measure of relative prices (e.g., Dornbusch 1980; Bahmani-Oskooee and Brooks 1999).

³ For more details on these methods, see Appendix 2.

hypothesis of no panel cointegration at the one percent significance level. The evidence for panel cointegration is, however, less strong for the import function. One test rejects the null of no panel cointegration at the one percent significance level but the other three tests reject the null only at the ten percent significance level. It should be mentioned however that the estimated value for each test statistic is very close to its critical value at the five percent significance level. Thus, we consider the import function to be a cointegrated panel.

The estimated bilateral elasticities for each function, which are estimated by utilizing the dummy least square method, are presented in Table 3. We can see that the export function is very foreign income elastic, since the bilateral income elasticities are higher than one for all countries in the sample. The bilateral price elasticities are, however, much lower but they all are of the expected sign. The import function as well seems to be very elastic for the domestic income. The bilateral price elasticities are of the expected sign except for France. These elasticities are of lower size (one exception is the case of Germany which is close to one in absolute terms). The sum of bilateral price elasticities of export and import for each country does not add up to more than one in absolute terms except for Germany. Notice that the French case is not considered since the import elasticity is not of the expected sign. However, we can conclude that the M-L condition is not fulfilled except for Germany.

4. CONCLUSIONS AND POLICY IMPLICATIONS

This study applies the new developments in the field of panel cointegration analysis to investigate the long-run bilateral trade elasticities between Sweden and her six major trading partners for the period 1960-1999. Several tests for panel unit roots and panel cointegration are conducted. The results show that each variable is characterized by one panel unit root. However, the tests for panel cointegration show that both export and import functions can be considered as cointegrated panel systems. The estimated long-run elasticities reveal that the export function is very foreign income elastic but less-price elastic. The same results holds for the import function. The Swedish import function is very elastic to domestic income level but less elastic to terms of trade in real terms except for Germany.

What are the policy implications of our findings? The elasticity approach considers the real exchange rate and its effect on the demand and supply of traded goods as the key factor, while the absorption-approach asserts that total expenditure is the most critical factor for understanding and correcting import and export functions. The dynamics of the trade balance are explained by agents' response to transitory and permanent shocks, in particular, shocks in productivity.

What does cointegration, or lack of cointegration between real trade flows and real exchange rates or real incomes tell us about the state of the economy? Theory asserts that cointegration is to be expected under the maintained hypothesis that the economy is working properly. In a well-functioning economy, without permanent one-sided productivity shocks, cointegration is to be expected. This implies that the lack of

cointegration is the outcome of distorted markets, fundamental policy problems, and the existence of permanent technological shocks to the domestic economy.

However, our results offer three policy implications. First, our findings of cointegration between the variables indicate short-run imbalances are temporary and are sustainable in the long run. Second, macroeconomic policies (such as monetary policies) in Sweden have been less effective. Third, the sums of price elasticities are less than one in absolute terms except for Germany. This implies the Marshall-Lerner condition is not fulfilled except for Germany. Thus, bilateral devaluations are not likely to improve Swedish trade balances except for the bilateral trade with Germany.

APPENDIX 1

Data Definition and Sources

All variables are yearly over 1960-1999 period and obtained from the following sources:

- (a) National Board of Trade, Stockholm.
- (b) International Financial Statistics, various issues.

Variables:

IMP_i^{SWE} = The Swedish real imports from country i (Denmark, France, Germany, Norway, the UK and the US): nominal import values from source (a) deflated by the Swedish import price index from source (b).

EXP_i^{SWE} = The Swedish real exports to country i : nominal export values from source (a) deflated by the Swedish export price index from source (b).

Y_{SWE} = Real GDP in Sweden, which is set in index form to make it unit free (source b).

Y_i = Real GDP in country i , which is set in index form to make it unit free (source b).

EXR_i = Real bilateral exchange rate between Sweden and country i . It is defined as $(P_i \cdot E_i / P_{SWE})$, where P_i is country i 's GDP deflator (source b); E_i is the nominal bilateral exchange rate defined as the number of SEK per currency i (source b); and P_{SWE} is the Swedish GDP deflator (source b).

APPENDIX 2

Panel Unit Roots and Panel Cointegration

It is well known in the literature that the data generating process for many economic variables are characterized by stochastic trends that might result in spurious inference if the time series properties are not carefully investigated. One of the well-known test statistics for this purpose is the augmented Dickey-Fuller unit-root test. This test in simple form is the following:

$$x_t = \gamma x_{t-1} + v_t, \quad (A1)^4$$

which under the null hypothesis of no unit root, i.e. $\gamma = 1$, is equivalent to the following:

$$Dx_t = v_t. \quad (A2)$$

On the other hand, Shiller and Perron (1985) found that the power of Dickey-Fuller unit-root test is very low in small sample sizes. To increase the power of the test, Levin and Lin (1993) and Im, Pesaran, and Shin (2003) (IPS hereafter) suggested panel versions of the test. A panel version of the Dickey-Fuller unit-root test is the following:

$$\begin{bmatrix} x_{1t} \\ x_{2t} \\ \vdots \\ x_{Nt} \end{bmatrix} = \begin{bmatrix} \gamma_1 x_{1t-1} \\ \gamma_2 x_{2t-1} \\ \vdots \\ \gamma_N x_{Nt-1} \end{bmatrix} + \begin{bmatrix} v_{1t} \\ v_{2t} \\ \vdots \\ v_{Nt} \end{bmatrix}, \quad (A3)$$

where N signifies the number of cross-sections. The error terms are assumed to be white noise processes. The null hypothesis of panel unit root is $\gamma_i = 1$ for all i. The panel unit root test that Levin and Lin (1993) (LL) suggested is based on the following regression:⁵

$$x_{it} = \gamma_i x_{it-1} + v_{it}, \quad \text{for } i = 1, \dots, N \text{ and } t = 1, \dots, T. \quad (A4)$$

The panel estimator can be defined as the following according to the authors:

⁴ Notice that x_t is a scalar variable.

⁵ It should be pointed out that it is possible to add individual constant and trend terms in equation (A3).

$$\sqrt{NT}(\hat{g} - 1) = \frac{\frac{1}{\sqrt{N}} \sum_{i=1}^N \frac{1}{T} \sum_{t=1}^T x_{it-1} v_{it}}{\frac{1}{N} \sum_{i=1}^N \frac{1}{T^2} \sum_{t=1}^T x_{it-1}^2} . \tag{A5}$$

The following t-statistics can be used to test for the null hypothesis of panel unit root:

$$t_g = \frac{(\hat{g} - 1) \sqrt{\sum_{i=1}^N \sum_{t=1}^T x_{it-1}}}{\sqrt{\frac{1}{NT} \sum_{i=1}^N \sum_{t=1}^T v_{it}^2}} . \tag{A6}$$

The alternative hypothesis in the LL test is $g_i = g < 1$ for all i . The Monte Carlo simulations conducted by Levin et. al (2002) show that the power of the panel-based unit root test is much higher compared to individual unit root tests.

The IPS test allows for a heterogeneous coefficient of unit root and they suggest an average of the individual Dickey-Fuller tests. Their test, which has better size properties, is defined below:

$$\bar{t} = \frac{1}{N} \sum_{i=1}^N t_i , \tag{A7}$$

here t_i is the individual t-statistic for testing $H_0: \gamma_i = 1 \forall i, i = 1, \dots, N$. The alternative hypothesis in the IPS test is $g_i < 1$ for all i . That is, it allows for heterogeneity in the panel. Monte Carlo simulations conducted by Karlsson and Löthgren (2000) shows the better performance of the IPS test regarding power properties. Performing unit root tests in a panel perspective is important in order to avoid spurious regression in panel data.

If the variables contain unit roots, a natural next step is to test for cointegration. Pedroni (1995; 1997; 1999) suggests the following test statistics to test for panel cointegration:

1. Panel t-Statistic (Non-Parametric):

$$Z_{tN,T} = \left(\tilde{s}_{N,T}^2 \sum_{i=1}^N \sum_{t=1}^T \hat{L}_{11}^{-2} \hat{e}_{i,t-1}^2 \right)^{-1/2} \sum_{i=1}^N \sum_{t=1}^T \hat{L}_{11}^{-2} \left(\hat{e}_{i,t-1} \mathbf{D} \hat{e}_{i,t} - \hat{\mathbf{I}}_i \right), \tag{A8}^6$$

⁶ Notice the $e_{i,t}$ represents the error term in the panel equation that is tested for panel cointegration. See equations (1) and (2).

2. Panel t-Statistic (Parametric):

$$Z_{iN,T}^* = \left(\tilde{s}_{N,T}^{*2} \sum_{i=1}^N \sum_{t=1}^T \hat{L}_{11}^{-2} \hat{e}_{i,t-1}^{*2} \right)^{-1/2} \sum_{i=1}^N \sum_{t=1}^T \hat{L}_{11}^{-2} \hat{e}_{i,t-1}^* \Delta \hat{e}_{i,t}^* , \quad (\text{A9})$$

3. Group t-Statistic (Non-Parametric):

$$N^{-1/2} \tilde{Z}_{iN,T} = N^{-1/2} \sum_{i=1}^N \left(\hat{s}_i^2 \sum_{t=1}^T \hat{e}_{i,t-1}^2 \right)^{-1/2} \sum_{t=1}^T \left(\hat{e}_{i,t-1} \mathbf{D} \hat{e}_{i,t} - \hat{I}_i \right), \quad (\text{A10})$$

4. Group t-Statistic (Parametric):

$$N^{-1/2} \tilde{Z}_{iN,T}^* = N^{-1/2} \sum_{i=1}^N \left(\sum_{t=1}^T \tilde{s}_i^{*2} \hat{e}_{i,t-1}^{*2} \right)^{-1/2} \sum_{t=1}^T \hat{e}_{i,t-1}^* \Delta \hat{e}_{i,t}^* , \quad (\text{A11})$$

where

$$\hat{I}_i = \frac{1}{T} \sum_{s=1}^{k_i} \left(1 - \frac{s}{k_i + 1} \right) \sum_{t=s+1}^T \hat{\mathbf{m}}_{i,t} \hat{\mathbf{m}}_{i,t-s} , \quad (\text{A12})$$

$$\hat{s}_i^2 = \frac{1}{T} \sum_{t=1}^T \hat{\mathbf{m}}_{i,t}^2 , \quad \hat{\mathbf{s}}_i^2 = \hat{s}_i^2 + 2\hat{I}_i , \quad (\text{A13})$$

$$\tilde{s}_{NT}^2 = \frac{1}{T} \sum_{t=1}^T \hat{L}_{11}^2 \hat{\mathbf{s}}_i^2 , \quad \hat{s}_i^{*2} = \frac{1}{T} \sum_{t=1}^T \hat{\mathbf{m}}_{i,t}^{*2} , \quad (\text{A14})$$

and

$$\hat{L}_{11}^2 = \frac{1}{T} \sum_{t=1}^{k_i} \hat{\mathbf{h}}_{i,t}^2 + \frac{2}{T} \sum_{T=1}^{k_i} \left(1 - \frac{s}{k_i + 1} \right) \sum_{t=s+1}^T \hat{\mathbf{h}}_{i,t} \hat{\mathbf{h}}_{i,t-s} . \quad (\text{A15})$$

The residual terms used to estimate the above expressions are calculated by running the following regressions:

$$\hat{e}_{i,t} = \hat{\mathbf{g}}_i \hat{e}_{i,t-1} + \hat{\mathbf{m}}_{i,t} , \quad (\text{A16})$$

$$\hat{e}_{i,t} = \hat{\mathbf{g}}_i \hat{e}_{i,t-1} + \sum_{k=1}^{K_i} \hat{\mathbf{g}}_{i,k} \Delta \hat{e}_{i,t-k} + \hat{\mathbf{m}}_{i,t}^* , \quad (\text{A17})$$

and

$$\Delta y_{i,t} = \sum_{m=1}^M b_{mi} \Delta x_{mi,t} + \hat{\mathbf{h}}_{i,t} . \quad (\text{A18})$$

Pedroni provides some adjustments for each of all test statistics (both for panel unit root tests and panel cointegration tests) described above that result in standard normal distributions. In this study, we report the adjusted values so that in all cases the reported values should be compared to the $N(0,1)$ distribution. This is true for both the cointegration and unit root tests.⁷

Table 1. Test Results for Panel Unit Roots

H ₀ : I(1), H ₁ : I(0)			H ₀ : I(2), H ₁ : I(1)				
	LL ₁	LL ₂	IPS		LL ₁	LL ₂	IPS
$\ln IMP_i^{SWE}$	0.88	1.14	0.80	$\ln IMP_i^{SWE}$	-8.52 ^a	-7.45 ^a	-11.0 ^a
$\ln EXP_i^{SWE}$	0.09	-0.14	-0.10	$\ln EXP_i^{SWE}$	-9.58 ^a	-8.38 ^a	-11.06 ^a
$\ln Y_{SWE}$	0.60	1.74	0.39	$\ln Y_{SWE}$	-5.01 ^a	-4.89 ^a	-6.47 ^a
$\ln EXR_i$	0.41	0.28	-0.61	$\ln EXR_i$	-8.18 ^a	-8.26 ^a	-11.32 ^a
$\ln Y_i$	0.43	0.22	0.29	$\ln Y_i$	-6.53 ^a	-6.12 ^a	-8.11 ^a

Notes: LL₁ and LL₂ are the tests suggested by Levin and Lin (1993). The first test augments the regression until autocorrelation is removed. The second test takes into account the effect of potential autocorrelation when the parameters are estimated. IPS is the test suggested by Im et. al (2003). a signifies that the null hypothesis can be rejected at 1% significance level. The adjusted test results are presented here which can be compared to the $N(0,1)$ distribution. Notice that each test is one sided (to the left side of the distribution).

Table 2. Panel Cointegration Test Results for Import and Export Functions Based on Pedroni tests

	Test 1	Test 2	Test 3	Test 4
Export Function	-2.50	-2.19	-2.25	-2.31
Import Function	-1.57	-2.00	-1.50	-2.56

Notes: Notice that Test 1 = Panel t-Statistic (Non-Parametric), Test 2 = Panel t-Statistic (Parametric), Test 3 = Group t-Statistic (Non-Parametric), and Test 4 = Group t-Statistic (Parametric) as described in the main text. Once again using Pedroni’s procedure, we present the adjusted values here that can be compared to the $N(0,1)$. Since the tests

⁷ For more details see Pedroni (1999). These methods are also presented in Baltagi (2001).

are one sided the 1% critical value is -1.96 , the 5% value is -1.64 and the 10% critical value is -1.28 .

Table 3. The Long-Run Bilateral Trade Elasticities

	Export Function		Import Function	
	REX_i	Y_i	REX_i	Y_{SWE}
Denmark	0.03	1.33	-0.74	
France	0.26	1.21	0.79	
Germany	0.59	1.29	-0.91	
Norway	0.07	1.46	-0.16	
UK	0.16	1.40	-0.05	
US	0.24	1.35	-0.51	
Sweden				1.42

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Department of Economics
University of Skövde
P.O. Box 408
SE-541 28
Skövde, Sweden
Tel: +46 500 44 81 35
Fax: +46 (0)500-44 87 99
E-mail: abdulnasser.hatemi-j@his.se

Department of Economics
University of Örebro
SE-701 82
Örebro, Sweden
Tel: +46 19 30 33 98
Fax: +46 19 33 25 46
E-mail: manucmehr.irandoust@esi.oru.se

PUBLIC OPINIONS OF THE IMPEACHMENT OF PRESIDENT WILLIAM JEFFERSON CLINTON: A LOOK BACK

Carl E. Enomoto
Nancy Baker

*New Mexico State University
New Mexico State University*

ABSTRACT

The purpose of this paper is to determine how gender, party affiliation, political views, age, race, education, income, attendance at religious services, and other such variables affected public opinions of President Clinton shortly after the release of the Starr report (and before the impeachment vote in the House of Representatives). Using data from a CBS NEWS / NEW YORK TIMES poll taken from September 12 to September 15, 1998, this study found the following: 1) Age had an effect on opinions concerning the Clinton scandal with younger individuals more likely to want the impeachment process to begin. This information provides some support for the Life-experience hypothesis. 2) Women were more likely to want Clinton to resign and less likely to want impeachment, which is perhaps consistent with the strong support Clinton had from women voters in the 1996 election. 3) Those with more education and income were more likely to want Clinton to resign and less likely to want impeachment, which is consistent with the resource hypothesis. 4) The combination of all attributes and individual characteristics determine how final opinions are established concerning resignation, impeachment, and dropping the matter.

JEL Classification Codes: D72

Key words: *Public Opinion; impeachment; President William Jefferson Clinton*

1. INTRODUCTION

On January 17, 1998, President William Jefferson Clinton testified in the Paula Jones trial and denied having sexual relations with a White House intern, Monica Lewinsky. On August 17 of the same year, the president again testified, this time before Kenneth Starr's grand jury. That night President Clinton addressed the nation and stated that he had been involved in an inappropriate affair.

On September 11, 1998, Kenneth Starr and the Office of the Independent Council submitted a 455-page report to the House Judiciary Committee, outlining eleven impeachable offenses that the president was being accused of. The Judiciary Committee which consisted of twenty-one Republicans and sixteen Democrats, reduced and revised these to four allegations that were then voted on: article one "alleges that on Aug. 17, 1998, William Jefferson Clinton willfully provided perjurious, false and misleading testimony before Independent Counsel Kenneth Starr's grand jury"; article two "alleges that the president willfully provided perjurious, false and misleading

testimony in sworn, written answers and videotaped testimony in Paula Jones's civil rights lawsuit"; article three "alleges that the president prevented, obstructed, and impeded justice"; article four "alleges that the president willfully made perjurious, false and misleading sworn statements to Congress in response to written requests that were part of an impeachment inquiry." All of the Republicans on the Judiciary Committee voted in favor of articles one, three, and four, while the Democrats voted against them. Article two passed with twenty Republican votes in its favor and seventeen votes against it, one of which was a Republican vote (Fineman, 1998). The four articles of impeachment were then submitted to the entire House of Representatives for consideration.

On December 19, 1998, the U.S. House of Representatives voted to impeach President Clinton and approved articles one and three; articles two and four failed. The president was being impeached for trying to conceal an adulterous affair.

The trial moved on to the Senate. On February 12, 1999, President Clinton was acquitted of the charges before him. On the charge of perjury (article 1 of impeachment), there were fifty-five votes against convicting of perjury (45 Democrats and 10 Republicans) and 45 for convicting of perjury (all Republicans). On the charge of obstruction of justice (article 3 of impeachment), there were fifty votes against the charge of obstruction (all 45 Democrats and 5 Republicans) and fifty votes in favor of the charge of obstruction (all Republicans). A two-thirds majority vote was needed in the Senate on an article of impeachment to remove the president from office (Fineman 1999).

Public opinion was sharply divided. Many thought that President Clinton was not as apologetic regarding the affair as he should have been. Some individuals thought that he should resign while others believed that his actions did not rise to the level of "high crimes and misdemeanors" that the framers of the Constitution set forth as impeachable offenses. Furthermore, an examination of the votes in the House of Representatives and in the Senate provided evidence to some that the issues involved were partisan in nature.

Ann Coulter (1998), an attorney for the Center for Individual Rights, stated the following concerning the Clinton scandal:

Lying to the American people may not be a criminal offense, but it is a breach of trust by the president. It is a "high crime or misdemeanor." It is unquestionably an impeachable offense. As [Alexander] Hamilton suggested, the president could be impeached for acts that make him "unworthy of being any longer trusted," even if immune from "legal punishment." (pg. 305)

Of course, there are opposing opinions. Alan Dershowitz (1998, 218-219), a Professor of Law at Harvard Law School, stated the following:

But even if what the President is accused of doing were to be deemed a crime, it is not the sort of "high" crime or misdemeanor the framers had in mind when they established the criteria for impeachment.

One of President Clinton's harshest critics was William J. Bennett, who served as Secretary of Education and Chairman of the National Endowment for the Humanities under President Ronald Reagan. Bennett (1998, 129) stated

...I cannot shake the thought that the widespread loss of outrage against this president's misconduct tells us something fundamentally important about our condition. Our commitment to long-standing American ideals has been enervated. We desperately need to recover them, and soon. They are under assault.

Bennett believed that the Clinton scandal provided the nation with a view of itself. It was an opportunity to evaluate where we stood in our politics, morals and ethics. It was a time to examine what we believed was right or wrong and to decide what we wanted for our future.

As varied as public opinions were of the Clinton scandal, it is also interesting to note the differences in opinions concerning Clinton's job as president and Clinton's personal values. In a *Wall Street Journal*/NBC News poll taken right after the release of the Starr report, 73% rated Clinton poorly in terms of ethical and moral values while 10% gave him a favorable rating. When evaluating Clinton's job performance, 66% approved of Clinton's job as president while 31% disapproved (Duff, 1998).

Pious (1998) stated that the polls showed the public approved of the president's job performance and policies but disliked his character. One explanation Pious gave for this discrepancy is that the public disliked the mass media coverage involved and disliked the way the media handled its coverage of the impeachment. Another explanation offered by Pious was that the public is so cynical about politicians that nothing about their behavior comes as a surprise. He also stated that it is possible that the public has become so inundated with sexually explicit material it is no longer affected by the sexual indiscretions of others.

Cronin and Genovese (1998) also discussed possible reasons why people approved of the job performance of President Clinton but disapproved of his social life. They stated that the public does not believe adultery should be a reason for removing a president from office.

Newman (2003) gave reasons why individuals' assessments of the president's integrity might and might not affect their evaluations of his job performance. He concluded that integrity assessments did affect Clinton's job approval ratings.

Many polls have also been taken to see what percent of the public wanted to see the president impeached or wanted him to resign. Who are the people who wanted President Clinton out of office, and who were his supporters? Superficial assessments of the polling data have noted the impact of partisanship, ideology, religious activism, and other demographic factors on public attitudes regarding impeachment, resignation, or moving on. Yet these factors do not operate in isolation from one another. Through a logit analysis of polling data taken in the aftermath of the release of the Starr Report in September 1998, this study seeks to draw a more nuanced portrait of the individuals

who might support impeachment, resignation or moving on. Furthermore, by identifying the political groups and constituencies that are most sensitive to presidential indiscretions and moral turpitude, those with political aspirations can direct their attention, policies, and resources, to gain acceptance from these groups.

While other studies have analyzed public opinion polls during the Clinton-Lewinsky scandal such as Bennett, S.E. (2002), Renshon (2002), Pious (1998), Cronin and Genovese (1998), and Newman (2003), the focus has been on why the public supported the president but not his behavior. What these studies have not examined is how individual characteristics and traits affected public opinions of President Clinton concerning impeachment, resignation, and dropping the matter. This study directly addresses these issues.

Even today, President George W. Bush faces controversy and opposition regarding same sex marriage issues, pro-life issues, and stem cell research. While these issues are different from the Lewinsky scandal faced by President Clinton, they involve moral issues and opinions which may be related to the age, religious background, race, party affiliation, income, and education of the public. An analysis of how these demographic, political, and social characteristics help shape public opinion concerning moral issues may help us better understand how the public has reacted to political events in the past and how it will react to political events in the future. Indeed, the impeachment of President Clinton had some similarities (although many differences as well) to the Nixon impeachment. Altshuler (2000, 746) stated that in 1974 the House Judiciary Committee found that President Nixon had used federal agencies to “undermine his political opponents and obstruct government investigations...to warrant his impeachment”. In 1998 the House Judiciary committee concluded that President Clinton’s lying under oath and concealing a private relationship were an obstruction of justice and impeachable offenses.

The outline of this paper is as follows: in the next section, a theory of political participation (rational actor model) will be presented; it provides several testable hypotheses concerning the formation of public opinions of President Clinton. A discussion of the data and methodology used in this study will then be presented, followed by a section containing the empirical results. The conclusions and a summary will be given in the final section.

2. RATIONAL ACTOR MODEL

One of the most influential theories in political science is rational choice theory. Borooah (forthcoming) stated that this theory is known by many other names including the rational actor model, public choice theory, and social choice theory. Gintis (2003) stated that the rational actor model is now being used in both sociology and political science even though it has long been used in economics. He believes that this model or theory applies to all human behavioral disciplines. According to rational choice theory or the rational actor model, each individual chooses an option or alternative that offers the highest reward, welfare, or utility in the words of the economist, given constraints, resources, and circumstances that the individual faces.

Gintis (2003, 5) stated:

The rational actor model assumes that agents have preferences reflecting their wants and the tradeoffs among these wants, and that agents maximize their utility by choosing from an action set that is limited by available information, material resources and time, cognitive capacity, and the agent's physical capacities. Choice is also contingent upon beliefs concerning the probabilities of various states of nature, the frequency distribution of types of agents with whom they interact, and the relative effectiveness of different actions. The rational actor model is most highly developed in economics, but it applies to all the disciplines dealing with human behavior.

Parry and Shields (2001) stated that many theoretical models of political participation have been developed which use a rational actor framework. According to the rational actor model, all individuals try to achieve the greatest welfare/utility subject to the resource constraints they face. However, those individuals with fewer constraints (lower costs) would engage more in a political activity such as going to the polls to vote, compared to someone with higher costs. Furthermore, those who have preferences yielding a higher benefit from a political activity will engage in more of the activity. Parry and Shields also cite the work by Schlozman, Burns, and Verba (1994) in which resources of the individual play a key role in influencing political behavior, which could include voter turnout or some other type of political action. Parry and Shields then use the rational actor model and the role of individual resources as described by Schlozman, Burns, and Verba, to formulate hypotheses concerning the effects of gender, income (education), and age on voter turnout (or political action and participation). Concerning the effect of age on political activity, Parry and Shields (2001, 511) stated the following:

Generally speaking, there are three main hypotheses accounting for the relationships between age and political participation. The *life-experience* hypothesis suggests that as people age, they acquire resources and have learning experiences that promote participation (Strate et al., 1989; Rosenstone and Hansen, 1993:139). Alternatively, proponents of the *life-cycle* hypothesis argue that young citizens are less likely to vote because they lack the community involvement necessary to believe that politics is an important endeavor. This hypothesis also suggests that there will be a gradual decrease in political and social involvement among the most elderly as physical infirmities begin to increase and intensify (Cumming and Henry 1961; Milbrath and Goel, 1977:114-16; Rosenstone and Hansen, 1993:139), a pattern that may be especially common among women (Christy, 1987:91). Finally, proponents of the *generational* hypothesis suggest that socializing experiences influence each generation differently.

These hypotheses show that individuals of differing ages do face different costs, benefits, constraints, experiences, and resources. Thus it is to be expected, according to the rational actor model, that their involvement in political activity will differ. Furthermore, given these differences in costs, benefits, experiences, and resources, we would expect that individuals of differing ages would have different views and opinions regarding political issues such as the Lewinsky scandal. It is, in fact, through these formed opinions that individuals are moved to participate in political activities such as voting.

Given the above hypotheses concerning age and political participation and the link between age and opinions of the Clinton scandal, we would expect that older Americans would have been the ones more likely to want the matter dropped (compared to having the impeachment proceedings started) or to have Clinton resign to avoid the difficulties and political turbulence caused by putting the country through impeachment hearings. This fits into the *Life-experience* and *generational* hypotheses in that older individuals have experience with previous trials such as Watergate and the impeachment of former President Nixon, and that generation did not want to go through such a painful process again. This hypothesis (hypothesis 1) is summarized below:

H1: Older individuals would have been less likely to be in favor of the impeachment of President Clinton and more in favor of resignation.

Next, we turn to differences in opinions between males and females concerning the Clinton scandal. Atkeson and Rapoport (2003) have suggested that there are different ways of explaining gender differences in political participation and communication. In particular, socialization and political resources such as situational factors, education, and income, may play important roles in explaining gender differences in political engagement.

Parry and Shields (2001, 510) stated

Women, particularly in the 1990s, have become a target of political parties, activists, and pollsters. This barrage of invitation, influence, and obligation has been driven by-and has produced--such late 20th century icons as the "Soccer Mom" and "the Year (or the Decade) of the Woman" as well as record-level expenditures by woman-oriented political action committees.

Parry and Shields found that women were more likely to register and turn out to vote in the 1996 presidential election, holding everything else constant. Parry and Shields (2001, 506) further stated the following:

For the first time in history, the presidential election of 1996 produced a "women's president." Among men, Robert Dole was the preferred candidate by the narrow margin of 44 to 43 percent, but among women Bill Clinton was preferred 54 to 38 percent. The Clinton victory was made more robust by the

greater numbers of women in the voting age population as well as their recent turnout habits as compared to those of men.

This greater political participation and interest by women in a presidential candidate such as Clinton would likely have had an impact on their opinion of Clinton after the scandal. We would expect that women would have been more likely than men to favor resignation over impeachment if impeachment were thought to be a harsher form of punishment. This hypothesis (hypothesis 2) is summarized below:

H2: Women would have been more likely than men to favor Clinton's resignation over impeachment.

Next, we consider education and income. The effects of resources such as income and education on political participation have been examined in the past as noted by Schlozman, Burns, and Verba (1994). More specifically, those individuals with more resources (income and education) could be more satisfied with the current political administration and current economic situation and could therefore be more forgiving of the indiscretions of the current president. If resignation is viewed as a better outcome for the president than impeachment, those more forgiving of the president (those with more resources) may prefer it. [It is not clear that those with more education and income would prefer dropping the matter over resignation and impeachment. While dropping the matter is the least harsh punishment, many may concur that some form of punishment or censure was necessary]. This hypothesis is summarized below:

H3: Those with more education and a higher income would be more likely to be in favor of Clinton's resignation over impeachment.

This last hypothesis also suggests that the presence of children in a household can affect political participation, as noted by Parry and Shields. In particular, more children in a household leave fewer resources and less time for the adults to participate in political activities. In the case of public opinions of President Clinton, the presence of children in a household may lead the adults to be less forgiving of moral indiscretions of leaders. This would be especially true if the parents believed that the president should set an example for their children. Thus, we would expect these households to have been more in favor of resignation and impeachment compared to dropping the matter. This hypothesis is summarized below:

H4: Those with children would be more likely to favor resignation and impeachment for the president, compared to having the matter dropped.

Race also plays an important role when it comes to public opinions concerning President Clinton. Harvey (2000, A16) stated, "...Under the Clinton administration, black unemployment and poverty fell to the lowest rates in history, while income and home ownership soared to record highs. As president, Mr. Clinton put together a

diverse cabinet that includes three African-Americans; 13% of senior administration appointee positions are held by blacks". The article further cited President Clinton's trips to African nations and backing of affirmative action that led to support from the African-American community. With this widespread support, it would be expected that the African-American community would be more in favor of dropping the matter when it came to the Lewinsky scandal compared to the resignation or impeachment of the president. We summarize this hypothesis below:

H5: African-Americans would have been more likely to be in favor of having the matter dropped rather than having the president resign or be impeached.

Three remaining factors should have influenced public opinions of the president shortly after the Lewinsky scandal: political affiliation, political views, and religious beliefs. We would expect that Democrats would have been more likely to want the matter dropped and less likely to want resignation and impeachment, all other things constant. We would expect similar results for those with liberal political views compared to those with conservative views. Finally, we would expect that those who describe themselves as very religious would have been more in favor of resignation and/or impeachment compared to wanting the matter dropped. Kaufmann (2004) offered mechanisms through which religious beliefs are translated into political attitudes. These hypotheses are summarized below:

H6: Democrats would be more likely to want the matter dropped rather than have the president resign or be impeached.

H7: Those with liberal political views would be more likely to want the matter dropped.

H8: Those who describe themselves as very religious would be more likely to want the president to resign or be impeached.

These eight hypotheses are derivable from the rational actor model. They show that different individuals (actors) do face different circumstances, institutions, constraints, resources, and preferences. Due to the different situations they face such as age, gender, income, education, presence of children in the household, race, political affiliation, political views, and religious beliefs, their opinions of what should have been done in the case of the Lewinsky scandal are shaped. In the next section we describe the data and methodology used to test the above hypotheses.

3. DATA AND METHODOLOGY

The data for this study came from a CBS NEWS / NEW YORK TIMES monthly poll taken from September 12 to September 15, 1998, shortly after the release of the Starr report on September 11, 1998 (and before the impeachment vote). [The data was provided by ICPSR, the Inter-university Consortium for Political and Social Research].

A random-digit dialing survey was used to collect the sample and the universe was the adult population of the U.S. with a telephone, aged eighteen and over. The sample contained responses from 2,333 individuals although not all questions were asked on each of the survey days. The survey asked individuals for their opinions concerning the president's job performance, his moral and ethical values, and whether he should remain in office. This particular survey was chosen for this study due to the time it was taken (after the release of the Starr report and before the impeachment vote). The Starr report contained sexually explicit language and intensified the public debate over what should or should not be done to the president. There were other surveys available (after the release of the Starr report and before the impeachment vote), but these later polls solicited public opinions on a broader range of topics such as how the public would vote in the upcoming November 1998 congressional elections. The questions asked in the poll used for this study were more focused on the Clinton-Lewinsky scandal. It should be noted, however, that the public opinions expressed in the poll were largely the reflection of journalistic reporting of what was in the Starr report as opposed to what was actually contained in the report since the poll was taken the day after the release of the 455 page report.

For certain survey questions, the respondent was faced with three or more alternatives. As an example, the respondent might have been asked to give his/her opinion as to what should happen to the president. The answers available to the respondent were a) the matter should be dropped, b) he should resign, or c) he should be impeached. The answers were coded 0, 1, and 2, respectively. These responses to this type of question can be modeled by using the multinomial logit model. The multinomial logit model for three choices is as follows:

$$(1) \quad P_{0i} = \frac{1}{1 + e^{\sum_j b_j X_{ji}} + e^{\sum_j a_j X_{ji}}}$$

$$(2) \quad P_{1i} = \frac{e^{\sum_j b_j X_{ji}}}{1 + e^{\sum_j b_j X_{ji}} + e^{\sum_j a_j X_{ji}}}$$

$$(3) \quad P_{2i} = \frac{e^{\sum_j a_j X_{ji}}}{1 + e^{\sum_j b_j X_{ji}} + e^{\sum_j a_j X_{ji}}}$$

P_{0i} is the probability that the i^{th} respondent selects the answer coded 0. P_{1i} is the probability that the i^{th} respondent selects the answer coded 1, and P_{2i} is similarly defined. It should be noted that the sum of the probabilities for a given respondent equals 1. The X s represent the attributes and characteristics of the i^{th} respondent, such as age, race, gender, education, income, party affiliation, political philosophy, religious attitudes, and other factors that influence a person's opinion concerning President Clinton or his actions (and, therefore, affect the probability that this person will select a given answer).¹ In this formulation, the (maximum likelihood) estimates can be obtained for the betas and the alphas, and probabilities can be calculated for individuals with different attributes and demographic characteristics to see which groups favored resignation, impeachment or moving on.

In the next section, the logit results from the survey will be presented.

4. RESULTS

As stated in the previous sections, this study will focus on how the respondents to the survey answered the following question: "Now that President Clinton has testified before Independent Counsel Kenneth Starr's grand jury and made public statements, what do you think should happen?" The three choices available were these: a) the matter should be dropped, b) Clinton should resign, and c) Congress should begin impeachment proceedings.

The variables used in estimating the multinomial logit model are taken from the eight hypotheses described earlier and their values and coded names are given in Table 1. The parameter estimates are given in Table 2. In this table, the reference category is "the matter should be dropped" while the betas and alphas are the coefficients for the "resign" and "start the impeachment proceedings" choices, respectively.

The logit estimates are typically not directly interpreted, but out of the ten explanatory variables, only the coefficient of one (CHILDREN) was statistically insignificant in the entire model, at a level exceeding 12%. The presence of children could theoretically affect an individual's available resources and influence his/her opinion of the president in areas of moral indiscretion. However, we did not find this to be true. Our finding, however, is similar to that of Parry and Shields (2001); they found that the presence of school-age children had no effect on political activity (voter turnout) for men or women. Therefore we reject our fourth hypothesis (H4).

In Tables 3 and 4 we have used the estimated coefficients from Table 2 along with equations (1), (2), and (3) stated earlier in the paper, to estimate the probabilities that individuals with different X s (attributes and characteristics) would have preferred to have the matter dropped, have Clinton resign, or have Congress begin the impeachment proceedings. The first six items in Table 3 (or Table 4) combine various characteristics for male Democrats. The second six items only differ from the first six in that female Democrats are considered. The last twelve items are the same as the first twelve items for male and female Republicans. The only difference between Table 3 and Table 4 is

¹ In this formulation, $X_{i1} = 1$ for all i to allow for an intercept term.

that Table 3 contains results for African-Americans while Table 4 is for non-African-Americans (mostly white). The first noticeable difference in the probability estimates is that African-Americans were far more likely than any of their non-black counterparts to want the matter dropped. This result is not surprising, is entirely consistent with what the media reported, and leads us to not reject our fifth hypothesis (H5).² What our estimates reveal, however, is that considerable differences in opinion did exist among African-Americans when it comes to the Clinton scandal. Other factors such as political party affiliation, religious attitudes, political views, age, and education, also played a role in how opinions were shaped in the black community (and non-black community).

We first consider the role of age. In Table 3 (and Table 4), we look at 48 individuals, 24 of whom have the same characteristics as the others except for age, one being 55 and the other, 25. Our study finds that age did have an effect on opinions of the Clinton scandal. In particular, for older African-Americans, there was a small increase in the probability of wanting the matter dropped and wanting Clinton to resign. These increased probabilities show up as a smaller probability in wanting the impeachment process started. For example, for a male African-American who is a liberal Republican and a college graduate with an annual family income of over \$30,000 and who attends church every week, the probability of wanting the matter dropped increased from 57% to 61%, the probability of wanting Clinton to resign increased from 16% to 22%, and the probability of wanting the impeachment proceedings started decreased from 27% to 17%, when age increases from 25 to 55 (item 14, Table 3). David Bositis (2001, 49) stated that there may be substantial differences in the views and opinions of younger and older African-Americans:

On balance, except for the fact that they do not support the Republican party, black Generation Xers--or at least a very significant portion of them--would appear to be a fairly conservative, and potentially Republican-leaning, group. Seniors on the other hand, are bedrock Democrats. The generational differences between these two age cohorts are substantial and real.

This may, in part, explain why younger African-Americans were more inclined to want the impeachment proceedings started. In Table 4, similar results also tended to hold for non-African-Americans. This again suggests that older Americans were more likely to want the matter dropped or to have Clinton resign to avoid the difficulties and

² The marginal effects of the explanatory variables for the three choice model can be shown to be

$$\frac{\partial P_{Yi}}{\partial X_j} = P_{Yi} (d_j - b_j P_{1i} - a_j P_{2i}),$$

where d_j equals 0, β_j , or a_j , given $Y = 0, 1, \text{ or } 2$, respectively. The sum

of these marginal effects for a given change in X_j equals zero. As an example, if the probabilities of selecting options 0 and 1 are higher for an older individual (an increase in age) then the probability of selecting option 2 must be lower for that individual. The marginal effects for the race variable are 0.36, -0.30, and -0.06, for $Y = 0, 1, \text{ and } 2$, respectively. Thus African-Americans were 36% more likely to want the matter dropped, 30% less likely to want Clinton's resignation, and 6% less likely to want the impeachment proceedings to start, all other factors held constant. (These marginal effects have been calculated at the means of the explanatory variables).

political turbulence caused by putting the country through impeachment hearings. Thus, we do not reject our first hypothesis (H1).³

Next, we turn to differences in opinions between males and females concerning the Clinton scandal. Our results show that women were more likely than men to favor resignation over impeachment (although less likely to want the matter dropped). As an example, a white male, 55-year old Democrat with conservative political views who attends church every week and is a college graduate (item 1, Table 4), had a probability of wanting Clinton to resign of .27 and a probability of wanting impeachment of .08. A white female with the same characteristics (item 7, Table 4) had a probability of wanting Clinton to resign of .34 and a probability of wanting impeachment of .05. This would suggest that those who were initially strong backers of Clinton in 1996 (including women) would have preferred resignation (voluntary or otherwise) to impeachment, the latter of which could be viewed as harsh punishment for someone they otherwise supported. Therefore, we do not reject our second hypothesis (H2).⁴

Our results also show that education and income had an effect on opinions of the Clinton scandal. In our study, those individuals with more resources (income and education) tended to be more satisfied with the current political administration and current economic situation and, therefore, would have been more forgiving of the current president. If resignation were viewed as a better outcome for the president than impeachment, those with more resources would have chosen it. For example, a black male Republican with conservative views who never attended church who graduated from college, and who had a total family income in excess of \$30,000, had a probability of wanting Clinton to resign of .23 and a probability of wanting impeachment of .11 (item 15, Table 3). For the same individual who did not graduate from high school and who had an income of less than \$30,000, the probability of wanting Clinton to resign was .15, and the probability of wanting impeachment was .15 (item 17, Table 3). It is interesting to note, however, that those with more education and income were less likely to want the matter completely dropped. We, thus, do not reject our third hypothesis (H3).⁵

The remaining explanatory variables (political party, political views, and church attendance) had effects that were to be expected. Throughout Tables 3 and 4,

³ The marginal effects for the age variable are -0.00025, 0.00211, and -0.0019, for $Y = 0, 1$ and 2 , respectively. Thus for a person 10 years older (all other variables held constant) the probability of wanting the matter dropped does not substantially change, but the probability of wanting Clinton's resignation increases by 2% and the probability of wanting impeachment decreases by 2%. (Again these marginal effects have been calculated at the means of the explanatory variables).

⁴ The marginal effects for the gender variable are 0.035, -0.07, and 0.035, for the $Y = 0, 1$, and 2 , respectively. Since the gender variable is coded 1 for males and 0 for females, the results indicate that males were 3.5% more likely to want the matter dropped, 7% less likely to want Clinton's resignation, and 3.5% more likely to want the impeachment process started, all other factors held constant.

⁵ The marginal effects for income are 0.001, 0.03, and -0.03, for $Y = 0, 1$, and 2 , respectively. The marginal effects for education are -0.02, 0.02, and 0.0002. These results indicate that more education (moving from a high school graduate to some college and then to a college graduate) increased the probability of wanting Clinton's resignation by 2% and lowered the probability of wanting the matter dropped by 2%. An increase in income from under \$30,000 per year to over \$30,000 per year increased the probability of wanting Clinton's resignation by 3% and decreased the probability of wanting impeachment by 3%, holding all other factors constant.

Democrats were more likely to want the matter dropped and less likely to want resignation and impeachment, all other things constant. Similar results held for those with liberal political views compared to those with conservative views and those who never attended church compared to those who attended every week. We, thus, do not reject our sixth, seventh, and eighth hypotheses (H6, H7, H8).⁶

What this analysis shows is that there were many attributes and demographic characteristics of an individual that affected the opinions of that individual concerning what should have happened to President Clinton after the release of the Starr report. It is only by looking at a combination of these characteristics, however, that we can see how final opinions were formed. The results in Table 3 show that there was no "one" opinion of African-Americans nor was there "one" opinion of white Americans as shown in Table 4 (nor was there "one" opinion of Democrats or "one" opinion of Republicans). Even among black Republicans, the probability of wanting the Clinton scandal dropped ranged from .49 to .77, and the probability of wanting impeachment ranged from .07 to .30. An African-American male Republican with conservative political views who attended church every week and was a college graduate had a 19% probability of wanting impeachment (item 13, Table 3). A younger male (25 years of age rather than 55) had a probability of wanting impeachment of 30%. However, if this younger male had liberal political views, never attended church, did not graduate from high school, and had a family income of less than \$30,000, the probability of wanting impeachment fell back to 20% (item 18, Table 3).

As another example of how the combination of traits affected opinions, we considered a white 25-year old male Republican with liberal political views, who never attended church and graduated from college. He would have preferred dropping the matter (probability of .37) to resignation (probability of .33) and would have preferred resignation to impeachment (probability of .30) [item 16, Table 4]. While the Republican trait and age for this individual favored the opposite results, the liberal political views and church attendance (or lack thereof) reinforced this outcome. If this individual had the same traits as before with the exception of attending church every week (item 14, Table 4), the ordering of probabilities and options preferred would be completely reversed. This person would have preferred impeachment (probability of .41) over resignation (probability of .34) and resignation over dropping the matter (probability of .25). Certainly, the complex combination of attributes that everyone is made up of can have conflicting influences on our political opinions.

5. CONCLUSIONS

Using logit regression, this study has examined public opinions of President Clinton and issues that have come out of the Starr report. The following results were found:

⁶ The marginal effects show that Republicans were 48% less likely to want the matter dropped, 33 % more likely to want resignation, and 15% more likely to want impeachment. Conservatives were 7% less likely to want the matter dropped, 2% more likely to favor resignation, and 5% more likely to favor impeachment. Regular church attendees were 3% less likely to want the matter dropped, 2% more likely to want resignation, and 1% more likely to want impeachment, holding all other factors constant.

First, age had an effect on opinions concerning the Clinton scandal with younger individuals more likely to want the impeachment process to begin. This provides some support for the *Life-experience* hypothesis. Second, women were more likely to want Clinton to resign and less likely to want impeachment, which is perhaps consistent with the strong support Clinton had from women voters in the 1996 election. Third, those with more education and income were more likely to want Clinton to resign and less likely to want impeachment, which is consistent with the *resource* hypothesis. Finally, it was the combination of attributes and individual characteristics that determined how final opinions were established concerning resignation, impeachment, and dropping the matter.

The factors identified in this study as being consistent with the opinions surrounding the Clinton-Lewinsky scandal are not just peculiar to this case and sexual indiscretions of politicians. As an example, Dye (1997) stated that those in different age groups often have different opinions due to "generational effects." Those who lived through the Great Depression, for example, would more likely favor government income-maintenance programs. Furthermore, those with strong religious beliefs express very different opinions than those without these beliefs on a number of issues including abortion, drugs, and pre-marital sex. Race has also been an important factor contributing to differences in public opinions. Dye stated, "African Americans generally support a more positive role for government in reducing inequality in society" (p. 146). The Clinton-Lewinsky scandal offered another opportunity to view the role race plays in explaining differences in public opinions. William Bennett best described the importance of the Clinton-Lewinsky scandal (1998, 10):

Once in a great while a single national event provides insight into where we are and who we are and what we esteem. The Clinton presidency has provided us with a window onto our times, our moral order, our understanding of citizenship. The many Clinton scandals tell us, in a way few other events can, where we are in our public philosophy. They reveal insights into how we view politics and power; virtue and vice; public trust and respect for the law; sexual morality and standards of personal conduct.

Where did the American public stand in regard to these issues? This study points out which segments of our society did not approve or understand what the president did. In future presidential campaigns, presidential hopefuls may want to concentrate on bringing in these groups who have been alienated from the political process by what happened during the Clinton administration.

Studies such as this one are also important in understanding how the public and politicians have reacted to similar cases involving sexual misconduct. Gary Condit, a member of the U.S. Congress, informed police of his involvement with Chandra Levy, a Bureau of Prisons intern, whose body was found in May of 2002. The case was compared to the Clinton-Lewinsky scandal. Condit's involvement with Chandra Levy did not go unnoticed by the public and in the 2002 Democratic primary, he was defeated (www.who2.com/garycondit.html).

A more recent example of a sex scandal involving a politician was the case of New Jersey Governor, James McGreevey, who announced his resignation in August 2004 after informing the public that he was gay and was involved in an adulterous affair (www.cnn.com/2004/ALLPOLITICS/08/12/mcgreevey). An understanding of how public opinions are formed can help predict what segments of the voting public will be more or less forgiving of these sorts of indiscretions. Based on the percent of the voting public in each of these segments, predictions can then be made concerning the future political career of the politician involved.

This study also shows that different individuals face different costs, benefits, circumstances, constraints, and resources, and these factors not only have a bearing on their political activity as specified in the "rational actor model," but also on the formation of their political opinions, which guide their political activity. Models such as this one may be useful in exploring the formation of public opinions concerning other moral and social issues as well as political issues. For example, the war in Iraq has left the nation divided. Some individuals believe that the U.S. should be in Iraq while others believe that what the U.S. is doing in Iraq is not justifiable. Logit models such as the one used in this study may prove useful in identifying how these public opinions are formed. The results could also indicate what alternative policies or strategies in Iraq would lead to different public opinions.

Table 1. Description of Variables

<u>Variable Name</u>	<u>Values</u>
Children	1 - if children under eighteen are present in the household 0 - if not
Party	1 - if respondent thinks of himself/herself as closer to the Republican party 0 - if closer to the Democratic Party
Gender	1 - if the respondent is male 0 - if female
Liberal	1 - if the respondent would describe himself/herself as having a liberal view on most political matters 0 - if not
Conservative	1 - if the respondent would describe himself/herself as having a conservative view on most political matters 0 - if not [if both Liberal and Conservative variables are coded 0, then the respondent would describe himself/herself as having a moderate view on most political matters]
Religious	5 - if the respondent attends church every week 4 - if the answer is "almost every week" 3 - if the answer is "once/twice a month" 2 - if the answer is "a few times a year" 1 - if the answer is "never"
Education	5 - if the respondent has completed some post-graduate study 4 - if the respondent is a college graduate 3 - if the respondent has some college 2 - if the respondent is a high school graduate 1 - if the respondent is not a high school graduate
Age	a continuous variable from 18 to 98
Race	1 - if the respondent is an African-American 0 - if not
Income	1 - if total family income in 1997 was over \$30,000 0 - if less

Table 2. Multinomial Logit Estimates

[Dependent Variable: 0] the matter should be dropped, 1) Clinton should resign, or 2) Congress should begin impeachment proceedings].

<u>Variable</u>	<u>Beta</u>			<u>Alpha</u>		
	<u>Coefficient</u>	<u>z-value</u>	<u>P-value</u>	<u>Coefficient</u>	<u>z-value</u>	<u>P-value</u>
Constant	-2.3833*	-6.372	0.00000	-2.8529*	-5.578	0.00000
Children	0.040557	0.256	0.79788	-0.055742	-0.264	0.79152
Party	1.8802*	12.110	0.00000	2.3195*	9.695	0.00000
Gender	-0.29245*	-1.969	0.04899	0.29844	1.458	0.14477
Liberal	-0.24425	-1.202	0.22929	0.45456**	1.585	0.11301
Conservative	0.20043	1.201	0.22958	0.71094*	3.072	0.00212
Religious	0.11928*	2.298	0.02155	0.18664*	2.591	0.00958
Education	0.12096**	1.719	0.08555	0.042607	0.435	0.66361
Age	0.00746**	1.601	0.10947	-0.018564*	-2.881	0.00396
Race	-1.6085*	-4.426	0.00001	-1.2358*	-2.690	0.00715
Income	0.1078	0.625	0.53195	-0.35127**	-1.559	0.11903

* These coefficients are statistically significant at the 5% (or less) level.

** These coefficients are statistically significant at the 5% to 12% level.

Note: After deleting those observations with missing values, the remaining sample consisted of 1,285 responses.

Table 3. Probabilities that African-Americans Thought the Matter Should Be Dropped (P_0), President Clinton Should Resign (P_1), and Congress Should Begin the Impeachment Proceedings (P_2).

Political Party	Gender	Political View	Church Attendance	Education	Age	Income	drop P_0	resign P_1	impeach P_2
1- Democrat	Male	Conservative	every week	College Grad	55	>30,000	.89	.08	.03
					25		.89	.06	.05
2- Democrat	Male	Liberal	every week	College Grad	55	>30,000	.93	.05	.02
					25		.91	.04	.04
3- Democrat	Male	Conservative	never	College Grad	55	>30,000	.94	.05	.01
					25		.93	.04	.03
4- Democrat	Male	Liberal	never	College Grad	55	>30,000	.96	.03	.01
					25		.95	.03	.02
5- Democrat	Male	Conservative	never	Not H.S. Grad	55	<30,000	.95	.03	.02
					25		.94	.03	.03
6- Democrat	Male	Liberal	never	Not H.S. Grad	55	<30,000	.96	.02	.02
					25		.96	.02	.02
7- Democrat	Female	Conservative	every week	College Grad	55	>30,000	.88	.10	.02
					25		.88	.08	.04
8- Democrat	Female	Liberal	every week	College Grad	55	>30,000	.92	.06	.02
					25		.92	.05	.03
9- Democrat	Female	Conservative	never	College Grad	55	>30,000	.93	.06	.01
					25		.93	.05	.02
10- Democrat	Female	Liberal	never	College Grad	55	>30,000	.95	.04	.01
					25		.95	.03	.02
11- Democrat	Female	Conservative	never	Not H.S. Grad	55	<30,000	.95	.04	.01
					25		.94	.03	.03
12- Democrat	Female	Liberal	never	Not H.S. Grad	55	<30,000	.96	.03	.01
					25		.96	.02	.02
13- Repub.	Male	Conservative	every week	College Grad	55	>30,000	.52	.29	.19
					25		.49	.21	.30
14- Repub.	Male	Liberal	every week	College Grad	55	>30,000	.61	.22	.17
					25		.57	.16	.27
15- Repub.	Male	Conservative	never	College Grad	55	>30,000	.66	.23	.11
					25		.64	.17	.19
16- Repub.	Male	Liberal	never	College Grad	55	>30,000	.74	.16	.10
					25		.71	.13	.16
17- Repub.	Male	Conservative	never	Not H.S. Grad	55	<30,000	.70	.15	.15
					25		.65	.11	.24
18- Repub.	Male	Liberal	never	Not H.S. Grad	55	<30,000	.77	.10	.13
					25		.72	.08	.20
19- Repub.	Female	Conservative	every week	College Grad	55	>30,000	.50	.37	.13
					25		.49	.28	.23
20- Repub.	Female	Liberal	every week	College Grad	55	>30,000	.60	.28	.12
					25		.58	.21	.21
21- Repub.	Female	Conservative	never	College Grad	55	>30,000	.63	.29	.08
					25		.63	.23	.14
22- Repub.	Female	Liberal	never	College Grad	55	>30,000	.72	.21	.07
					25		.71	.17	.12
23- Repub.	Female	Conservative	never	Not H.S. Grad	55	<30,000	.69	.20	.11
					25		.67	.15	.18
24- Repub.	Female	Liberal	never	Not H.S. Grad	55	<30,000	.77	.14	.09
					25		.74	.11	.15

Table 4. Probabilities that Non-African-Americans Thought the Matter Should Be Dropped (P_0), President Clinton Should Resign (P_1), and Congress Should Begin the Impeachment Proceedings (P_2).

Political Party	Political Gender	Political View	Church Attendance	Education	Age	Income	drop P_0	resign P_1	impeach P_2
1- Democrat	Male	Conservative	every week	College Grad	55	>30,000	.65	.27	.08
					25		.65	.21	.14
2- Democrat	Male	Liberal	every week	College Grad	55	>30,000	.73	.20	.07
					25		.73	.15	.12
3- Democrat	Male	Conservative	never	College Grad	55	>30,000	.76	.20	.04
					25		.76	.16	.08
4- Democrat	Male	Liberal	never	College Grad	55	>30,000	.82	.14	.04
					25		.83	.11	.06
5- Democrat	Male	Conservative	never	Not H.S. Grad	55	<30,000	.81	.13	.06
					25		.80	.10	.10
6- Democrat	Male	Liberal	never	Not H.S. Grad	55	<30,000	.86	.09	.05
					25		.85	.07	.08
7- Democrat	Female	Conservative	every week	College Grad	55	>30,000	.61	.34	.05
					25		.62	.28	.10
8- Democrat	Female	Liberal	every week	College Grad	55	>30,000	.70	.25	.05
					25		.71	.20	.09
9- Democrat	Female	Conservative	never	College Grad	55	>30,000	.72	.25	.03
					25		.74	.20	.06
10- Democrat	Female	Liberal	never	College Grad	55	>30,000	.80	.18	.02
					25		.81	.14	.05
11- Democrat	Female	Conservative	never	Not H.S. Grad	55	<30,000	.79	.17	.04
					25		.79	.14	.07
12- Democrat	Female	Liberal	never	Not H.S. Grad	55	<30,000	.85	.12	.03
					25		.85	.09	.06
13- Repub.	Male	Conservative	every week	College Grad	55	>30,000	.20	.55	.25
					25		.19	.41	.40
14- Repub.	Male	Liberal	every week	College Grad	55	>30,000	.27	.47	.26
					25		.25	.34	.41
15- Repub.	Male	Conservative	never	College Grad	55	>30,000	.30	.52	.18
					25		.30	.40	.30
16- Repub.	Male	Liberal	never	College Grad	55	>30,000	.39	.43	.18
					25		.37	.33	.30
17- Repub.	Male	Conservative	never	Not H.S. Grad	55	<30,000	.36	.38	.26
					25		.32	.27	.41
18- Repub.	Male	Liberal	never	Not H.S. Grad	55	<30,000	.45	.30	.25
					25		.40	.39	.21
19- Repub.	Female	Conservative	every week	College Grad	55	>30,000	.18	.66	.16
					25		.18	.53	.29
20- Repub.	Female	Liberal	every week	College Grad	55	>30,000	.25	.58	.17
					25		.24	.46	.30
21- Repub.	Female	Conservative	never	College Grad	55	>30,000	.27	.61	.12
					25		.28	.51	.21
22- Repub.	Female	Liberal	never	College Grad	55	>30,000	.36	.52	.12
					25		.37	.42	.21
23- Repub.	Female	Conservative	never	Not H.S. Grad	55	<30,000	.34	.48	.18
					25		.32	.37	.31
24- Repub.	Female	Liberal	never	Not H.S. Grad	55	<30,000	.43	.39	.18
					25		.41	.29	.30

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Carl E. Enomoto
Professor of Economics
New Mexico State University
email: cenomoto@nmsu.edu
tel: (505) 646-1992

Nancy V. Baker
Associate Professor of Government
New Mexico State University
email: nbaker@nmsu.edu
tel: (505) 646-4935

THE AMERICAN APOGEE OF CONTRIBUTIONS ON ENTREPRENEURSHIP (1880S – 1920S)*

Anastassios D. Karayiannis

University of Piraeus

ABSTRACT

The American economists, at the end of the 19th and the beginning of the 20th centuries, were more pioneering than their Continental colleagues on the issue of entrepreneurship. Their endeavor was mainly concentrated on explaining the sources of profit and in justifying its economic necessity and merit. The present paper will investigate comparatively with their Continental colleagues, their various ideas and arguments developed regarding the motives, functions and entrepreneurial rewards.

JEL Classification Codes: B13, M13

Key words: *entrepreneurship, entrepreneurial functions, American contribution.*

1. INTRODUCTION

Schumpeter (1954, 894) observed that during the 1920s many theoretical treatises were published fruitfully analyzing entrepreneurial functions. However, earlier than this time, a great, productive literature was developed, mainly in the United States, examining the issue of entrepreneurship and the justification of profit. The purpose of the present paper is to demonstrate that American economists, long before the end of 1920s, had advanced a variety of significant ideas about the entrepreneurial function and its reward, some of which are proved influential in the short and long-run analysis of this phenomenon. Such an endeavor was reinforced after the publication of E. von Bohm-Bawerk's *Capital and Interest* (1889) in which he explored and justified interest as a reward of roundabout productive methods. American economists by the end of the 19th century had attempted to explain the sources of profit and to justify (on economic, rather than moral, grounds) its existence. Such was their aim in publishing papers about the sources and validation of business profit in one of the first volumes of the *Quarterly Journal of Economics* (QJE) (1887).

The present paper will explore the significant contributions of American economists from the first issue of the QJE in 1887 until mainly the beginning of 1920s when F. Knight's treatise, *Risk, Uncertainty and Profits* (1921), was published. Contrary to Stigler (1955, 3) who argued that the rate of impact in the advancement of a theory is the decisive factor for a scientist's contribution, I think that originality and priority deserve also a detailed consideration. Adopting such a view the present paper is divided in two sections. The first investigates the relevant ideas and arguments regarding entrepreneurial motives and functions of both American and Continental

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economists in the period in question. The second explores the various “sources” and justifications of entrepreneurial income. It is concluded that the primary concern of the American economists was to explain the sources of profit and to justify its economic necessity and merit. In this attempt, those American economists proved more pioneering than their Continental colleagues in the field of entrepreneurial theory.

2. ENTREPRENEURIAL MOTIVES AND FUNCTIONS

America, during the period in question, proved a fertile ground for investigating specific entrepreneurial motives and functions. In regard to entrepreneurial motives, the American economists such as Ely (1889, 140-1, 225); Hadley (see Davidson and Ekelund, 1994, 4,13); Hawley (1901, 61); Taussig (1911, 167,169); Davenport (1913, 117, 140, 150, 156) and Knight (1921, 319, 333) stressed mainly two entrepreneurial motives: the profit or wealth motive and the motive/ambition for social advancement. Moreover, Knight (1921, 366) added the motive for independence, namely “of being one’s own boss”, as a strong entrepreneurial stimulus.¹ These entrepreneurial motives are still considered today as pull factors stimulating the supply of entrepreneurs (see e.g. Shane, Locke, and Collins, 2003).

The investigations of American theorists concerning the entrepreneurial function also proved quite productive. More specifically, Francis Amasa Walker (1887, 269, ft; see also Chell, Haworth, and Brearley, 1991, 20) extended his father’s ideas on entrepreneurship. His father, Amasa Walker (1866, 280) credited to the entrepreneur the function of the manager and coordination of the factors of production, clearly distinguishing such a function from that of the laborer and the capitalist. Also, he held that although profits are a residual of income distribution, they are “merely wages received by the employer” (1866, 285).² F.A. Walker similarly specified that there exists a different class in society: “the employers themselves, in so far as they personally conduct and control business operations, their remuneration being styled the wages of supervision and management” (1876, 10). He characterized (1876, 243, 245) such a class of entrepreneurs, consisting of the chief agents of production, as the “captains of industry”; a term used by some eminent American economists, such as Veblen (1904, 30), Taussig (1911, 160), Davenport (1913, 109) and by some Europeans, such as Dobb (1925, 3).³ F.A. Walker disregarded the terms “undertaker” and “adventurer” and used that of “entrepreneur,” because, as he noticed, the first term is rather “devoted to

¹ Parker (1918, 218) regarded one of the main entrepreneurial instincts to be leadership.

² The specific treatment of entrepreneurship, which was suggested by A.Walker, was followed by the majority of American economists, such as his son F.A.Walker (1876, pp. 231,269), Davenport (1907, 99) and others. F.A. Walker (1887, 274, ft) applauds French writers such as J.B. Say and Sandelin who analyzed a distinct entrepreneurial role.

³ Ely (1889, 155) defined the entrepreneur as one “who manages business for himself” and his function “has become one of the most important in modern economic society. He has been well called a captain of industry, for he commands the industrial forces, and upon him more than anyone else rests the responsibility for success or failure” (see also Ely and Wicker, 1904, 191).

funeral uses” and the second “has acquired a wholly sinister meaning” (1876, 244).⁴ Although some Continental economists in the 19th century, such as von Mangoldt and Mataja (see Knight, 1921, 27-9; Tuttle, 1927b, 516-8), followed the line of Cantillon and J.B. Say in differentiating the role of capitalist from entrepreneur, it was the Americans who stressed and established a clear distinction of the entrepreneurial function.

In regard to such a distinct function, some of the Americans followed the classical tradition of viewing it in organizing and directing the production process. Others, however, opened new paths in recognizing the significance of other entrepreneurial activities such as the bearing of risks and innovation. More specifically, F.A. Walker stressed the necessity of clearly distinguishing entrepreneurs from capitalists and laborers (1876, 244) and described entrepreneurial activities as “to furnish also technical skill, commercial knowledge, and powers of administration; to assume responsibilities and provide against contingencies; to shape and direct production, and to organize and control the industrial machinery” (1876, 245). The same line of the classical tradition was followed by Newcomb (1886, 71, 101-2) who developed the entrepreneurial role of coordinating the factors of production and organizing the enterprise. Similarly, J.B. Clark (1899a, 3; see also Stigler, 1941, 319) adopted such an entrepreneurial function adding the role for the restoration of equilibrium; a role advanced also by Taussig (1911, 159). Veblen, argued that the old type entrepreneur, acting in his own self-interest, namely under the desire for “the acquisition of property” (1914, 172-3; 1915, 122),⁵ contributed to economic progress through the following functions and activities: (i) he is the proprietor and manager of the enterprise (1904, 23) and the “controller of industrial equipment and resource” (1923, 70); and (ii) he is the organizer of the production process (1904, 35). Simpson (1919, 150), also into the realm of classical tradition, tried to determine who, in reality, the entrepreneur is and from what sources his profit is realized. After examining various profit theories, he held that “a qualification of Walker’s theory of profit represents the most satisfactory theory that has been evolved. Profit is justified because the entrepreneur directs or is responsible for production which is more efficient than the marginal production” (1919,

⁴ Similarly, Ely (1889, 155; see also Ely and Wicker, 1904, 191) disregarded terminology such as “undertaker” or “adventurer,” instead of the “captain of industry,” because “the first word has been appropriated by one small class of business men, and the latter has acquired a new meaning, carrying with it the implication of rashness and even of dishonesty”

⁵ In such a context, Tuttle (1927, 501) claimed “the function of ownership of the business” was to be “viewed as an organized unit, as the distinctive function of the entrepreneur”. Property rights as the basis of entrepreneurial function has been analyzed by Alchian and Demsetz (1972, 125) who regarded the entrepreneur as a person who receives “the residual reward” and has the following bundle of property rights: “(1) to be a residual claimant; (2) to observe input behavior; (3) to be the central party common to all contracts with inputs; (4) to alter the membership of the team; and (5) to sell these rights”. They emphasized the coalescing of these rights which constitute the firm arises “because it resolves the shirking-information problem of team production better than does the non-centralized contractual arrangement”.

158). He also maintained the entrepreneurial role has to be examined in the context of the modern corporation where the ownership is distinct from the direction.⁶

Comprising the second group of American economists are those who particularly concentrated on searching for other entrepreneurial functions and activities. More specifically, J.B. Clark maintained (1899a, 405, 410, 425; see also Karayiannis, 1990) that the function of the entrepreneur was not only that of coordinating/organizing, but also that of introducing more efficient methods of organization and production. By such innovative activities, the entrepreneur would gain an extra short-run profit which, however, would be eliminated when these new methods of production by the function of imitators were diffused in other firms (1899a, 406, 410; 1899b, 195-7).⁷ Namely, J.B. Clark anticipated two kinds of the Schumpeterian innovation activities; Schumpeter (1911, 25) was well aware about Clark's distribution theory.

T. Veblen, similarly stressed that the entrepreneur's ultimate aim is to increase his profit by decreasing the cost of production (1904, 23), and thus the productive capacity of the system would be consequently increased (1921, 30). The entrepreneur succeeds in such a role if he acts as a real innovator by introducing new and more productive methods of production, by introducing more serviceable goods, and by assuming the risks of his pioneering actions (1923, 102-4, 109). More than that, Veblen regarded (1921, 60; 1923, 106) that some exogenous and endogenous changes led to the old role of the "captain of industry" being transmuted into two separate categories of management in the new industrial system: that of the businessman and that of the management technician. The first type of management, the businessman, was divorced from its industrial operations and is engaged now in the monetary transactions of the business (1923, 108), the direction of investments to the most profitable enterprise (1904, 24-5), and in keeping the balance between different lines of the production process (1904, 26). The second type of management, that of the technician, had the sole direction and control of the "mechanical process" (1921, 59). Therefore, in the modern industrial system, the innovative entrepreneurial function has been entirely replaced by specialized laborers: the industrial technicians or engineers (1923, 255).⁸

⁶ Some years later, Gordon (1936), building upon the function of the modern corporation and the separation of ownership and control, argued that the entrepreneurial function must be specifically analyzed as distinct "both from routine labor (mental or physical), on the one hand, and from the supplying of resources (with or without contractual guarantees), on the other" (1936, 313). He regarded that such a function may be accomplished also by salaried managers (i.e. as a form of intrapreneurship) who exercise the control of enterprise (for an extended analysis see Lewis, 1937). However, Gordon argued that the net profits of enterprise are like an "institutional income" in a kind of "gains of position" and are reaped by the owners of the enterprise (1936, 313-5).

⁷ These ideas were also shared by Taussig (see Hebert and Link, 1982, 68). Similarly, R.A. Seligman in his *Principles of Economics* (1904) analyzed the role of innovative entrepreneur in reducing the cost of production and gaining extra short-run profits (see Davenport, 1907, 100-3).

⁸ Such an explanation for the diversification of entrepreneurial function was adopted later on by Schumpeter (1943, 132) who claimed that the main role of the entrepreneur "is already losing importance and is bound to lose it at an accelerating rate in the future even if the economic process itself of which entrepreneurship was the prime mover went on unabated. For, on the one hand, it is much easier now than it has been in the past to do things that lie outside familiar routine - innovation itself is being reduced

Veblen clearly distinguished (1904, 44-5) between the process of invention and that of innovation, as also Schumpeter (1911, 88-9) later did. However, Veblen was not as convinced as Schumpeter that the prime mover of the system is the innovative entrepreneur. At the contrary, the new type of entrepreneur, as Veblen explained (1921, 29, 33), is that of financial director of the system. The ultimate objective of this new type of entrepreneur is the same as that of the old "captain of industry": the maximization of profits. However, the path which the financial entrepreneur takes toward the attainment of this aim is different from that of the old "captain of industry".⁹

Some ideas of Veblen about the function and activities of the entrepreneurs are still alive. For example, Galbraith (1967, 62-65, 173) used his distinction of roles between the technostructure (innovative entrepreneur) and financial management. Also, they are employed in tracing the origins of the competence theory of the firm (Foss, 1998); and are applied in showing the various profits opportunities that arise in the modern economies in transition (see Karayiannis and Young 2003).

During this same period, Davenport (1913, 118) insisted that the economist "must accept the entrepreneur function and the entrepreneur analysis". Also, "he must carry the analysis further than the entrepreneur is concerned to carry it in explaining what the entrepreneurs does, - the situation conditioning his activity, the forces playing upon it, and the results that flow from it" (1913, 118). By such claims, he became a forerunner of the modern multidisciplinary approach of the phenomenon of entrepreneurship.

Davenport also advanced (1913, 19) the following main traits of the modern economic system: "private property, individual initiative, and competitive production for the purposes of exchange". Under such principles- similar with those stressed recently by Casson (1987, 152)- the entrepreneurial function is more pervasive. Davenport defined (1913, 67) the entrepreneur as "the independent, unemployed manager; the one who carries the risks and claims the gains of the enterprise".¹⁰ Although he recognized (1913, 398) the existence of non-insured risks as those risks "which the entrepreneur cannot get carried for him by others at any level of premium" (1913, 400), he did not assign the function of uncertainty-bearing as a special entrepreneurial one deserving a special reward. Instead of such a claim, he insisted these kinds of risks may be reduced by the operation of able and skilled entrepreneurship (1913, 400,404).¹¹

Moreover, Davenport (1913, 5) argued the entrepreneur's "problem is to adapt activity to opportunity, to seek out his best adjustment to his situation and his best utilization of it." Namely, the effort for the exploitation of opportunity is the main source

to routine. Technological progress is increasingly becoming the business of teams of trained specialists who turn out what is required and make it work in predictable ways".

⁹ For an extensive analysis of the role and activities of the financial entrepreneur according to Veblen, see Griffin and Karayiannis (2002).

¹⁰ In his earlier economic text-book, Davenport (1896, 150-1) used the term "undertaker" or "impreditor" to describe the entrepreneurial function of the management and supervision of enterprise.

¹¹ A similar argument developed by F. Fetter in his *The Principle of Economics* (1904), who claimed that "profits are due, not to risk, but to superior skill in taking risks. They are . . . earned in the same sense that the wages of skilled labor are earned" (quoted in Davenport, 1907, 98).

of profitability and economic development.¹² It seems that Davenport anticipated the neo Austrian entrepreneurial theory developed by Israel Kirzner who maintains that entrepreneur is “a decision-maker whose entire role arises out of his alertness to hitherto unnoticed opportunities” (1973, 39; see also pages 35, 47-9).

Davenport’s entrepreneurial theory is mainly converged on the entrepreneur’s calculated efficiency under the notion of opportunity costs or foregoing profits (1913, 60-1). He held that the entrepreneur computes costs and determines - according to demand, supply and productivity - the rate of factors reward (1913, 139-40, 143). Then, he regulates the market price of goods based upon his costs and, by extension, the market demand for relevant goods as a price setter or “determinator” (1913, 110, 112-3, 115). In addition, he “distributes the productive agents and instruments into their different channels in response to the pressure of human needs as expressed in competing price demands” (1913, 115). To put it differently, one of the main goals of the entrepreneur is to guide and supervise the productive process (1913, 139) in such a way that “his profit is partly due to the fact that he is able to make an intermediate good or agent signify more to him in gain than he has to pay for it in wages and rent” (1913, 148). Moreover, Davenport recognized (1913, 416), but did not analytically explain and justify, the entrepreneurial function of the innovator in introducing new technology. Although, under the well-known slogan “knowledge is power,” he distinguished (1913, 9) the activities of the inventor from that of the innovator.

In the same year, Haney (1913, 9-10) stressed entrepreneurship must be examined as a distinct factor of production that “organize[s] and direct[s] the business units”. Namely, the entrepreneur “through his foresight and ability . . . directs the application of human energy in the shape of labor-power and capital-saving to the exploitation of the opportunities afforded by nature” (1913, 10). Additionally, he recognized the various risks of uncertainty as “the entrepreneur’s risk arises from the impossibility of controlling prices”, and claimed that the entrepreneur has the ultimate responsibility for the enterprise (1913, 10-1). However, he did not develop such an uncertainty-bearing entrepreneurial function, although he justified a part of net profit as rewarding entrepreneur’s ability “to bear risk, the moral quality of responsibility” (1913, 11).

A much more comprehensive entrepreneurial theory was advanced by Hawley (Chell, Haworth, and Brearley 1991, 21). He argued, in various analyses, that entrepreneurship as a fourth factor of production, assumes the various risks and receives as a reward a profit rate which is the residual of production (1902, 236, 240). He claimed “profit is simply the price paid by society for the assumption of business risks [and] ... [t]he pure profit will vary with the personal ability shown in the selection of business risks” (1890, 388; see also 1890, 391; 1893, 465, 470; 1900, pp. 75-8). And, “the entrepreneur will never assume this uncertainty inevitably attached to the production process, but in conjecture and other risks, unless he believes he will profit thereby” (1901, 604). Such profit would be the residual element of income distribution (1890, 391,394; 1901, 607-8) and therefore, “the undertaker . . . is primarily . . . the

¹² Such an entrepreneurial function in searching profit opportunities was clearly recognized also by Pantaleoni (1898, 279).

person who relieves others of risk for a consideration always in excess of the chance of loss supposed to be incurred" (1892, 291; see also O'Brien 1929, 14-5, 66; Hebert and Link 1982, 65-6; Barreto 1989, 36).¹³ Hawley's theory, which he incorporated into his *Enterprise and the Productive Process* (1907), had been accepted and followed by others, such as Carver (1900, 456-7), and was extended by Knight (1921) to his well-known entrepreneurial theory which will be examined in the coming pages. Thus, rightly Dorfman (1949, 132) noticed: "Hawley's emphasis on the entrepreneur as the great dynamic force was particularly stimulating to academic economists".¹⁴

J.B.Clark (1892) was opposed to Hawley's theory of entrepreneurship (see also Hutchison 1953, 312; Barreto 1989, 56-8) and maintained (1892, 44-5), that non-measurable risks are assumed ultimately by the capitalist. Clark emphasized that the entrepreneur, who produces some change by means of his activities, "is a risk-maker" (1892, 47); while the manager is a "risk-reducer" (1892, 48). Hawley (1893, 460) counter-argued, maintaining that "the circumstances that industrial risks will not be assumed without the expectation of a compensation in excess of the actuarial value of risk". He considered as unavoidable the function of entrepreneur in assuming such risks (1893, 465, 470). By criticizing in his turn Clark's coordinating theory of entrepreneurial function, Hawley thought "the distinguishing peculiarity of the entrepreneur is not that he is a co-ordinator, but is to be found in his ownership of the product" (1893, 478). Hence, "as the ownership of the product . . . implies that the continuance of risk and the indetermination of the amount of the residue are always co-existent, the residue of the product must constitute the reward for risk, and the only possible inducement to incur risk" (1893, 478). Hawley concluded, "enterprise, or risk-taking, is to be ranked, along with land, labor, and capital, as one of the four fundamental divisions of the productive forces" (1893, 479).

The well-circulated theory of entrepreneurship as risk-bearing function was also advanced by Haynes (1895, 409), who referred to the distinction of von Mangoldt (see Hennings, 1980) between risks due to irregularities and risks of economic nature. Haynes analyzed the following sources of risks: (a) those arising from ignorance; and (b) those due to dynamic changes and mostly changes in the methods of production (1895, 412-3). Although he recognized such a risk-bearing function "does not increase product as labor and capital increase it" (1895, 416), he regarded it as a necessary activity deserving a proper remuneration (1895, 434, 449).¹⁵ He furthermore claimed, in reality, there is no such a type as the "pure entrepreneur". Such an entity is to be treated as an ideal and theoretical type used mainly for analytical investigations (1895, 426; see also O'Brien, 1929, 12). Such an approach was used later on by Schumpeter

¹³ Hawley (1892, 283-4) criticized Bohm-Bawerk's theory of interest as not having incorporated into his analysis a specific reward for the assumption of various economic risks. Also, he noticed (1900, 460, ft), that when he developed his own entrepreneurial theory he had no idea about Mangoldt's relevant contribution.

¹⁴ Hawley (1927, 413-5) maintained one of his original contribution in economics was his entrepreneurial theory of risk assuming and responsibility.

¹⁵ Haynes noticed also the laborer bears some risks as well: "When a young man enters upon such a course of training, he risks his time, his money, and his effort" (1895, 436).

(1911, 81, 101) and shared by Edgeworth (1925, 48), who noted “to determine at what point the capitalist ends and the entrepreneur begins appears to defy analysis”.

Frank H. Knight’s main contribution to economics, is his theory of risk of uncertainty bearing; a theory which, however, had been anticipated by R. Cantillon and R. Hamilton (see Karayiannis 1992). Knight did not treat entrepreneurship as a factor of production where its marginal contribution could be measured and varied proportionately; though, he stressed its direct contribution on the establishment and function of the firm (Cunning 1993).¹⁶

He held that entrepreneurship is a functional activity when exists a differential operation between the actual and the theoretical competitive market. Thus, the entrepreneurial function is mostly obvious in a non-competitive world where perfect knowledge and foresight are absent (1921, 19). In such a world, both calculable and non- calculable risks arise. Calculable risks are included through the risk premium in the cost of production, while non-calculable risks, those which characterize uncertainty, are assumed by the entrepreneur (1921, 19-20).¹⁷

Uncertainty exists, according to Knight, not only because of unforeseen economic and other changes, but furthermore as “business decisions . . . deal with situations which are far too unique . . . for any sort of statistical tabulation to have any value for guidance” (1921, 231). It is this true uncertainty “which by preventing the theoretically perfect outworking of the tendencies of competition gives the characteristic form of enterprise to economic organization as a whole and accounts for the peculiar income of the entrepreneur” (1921, 232).¹⁸ The “amount” of uncertainty is affected by the following factors: (a) “the time length of the production process”; (b) “the general level of economic life”; (c) the non-stable and non-predicted economic wants; (d) the unknown “development of science and of techniques of social organization” (1921, 265; see also 1933, 120); (e) “the sale price of his product” (1921, 317); and (f) “the amount of supply to be expected from other producers and the consumers’ wants and purchasing power” (1921, 318). According to Knight, all these sources of uncertainty may be credited to time and are primarily connected to decision-making with respect to future events; an activity that differs fundamentally from decision-making associated with the present time (Loasby 2002, 31).

¹⁶ Demsetz (1988, 236-7) characterized Knight’s contribution on entrepreneurship and profit theory as one of the most sophisticated that has endured up to the present.

¹⁷ Knight argued that the presence or absence of uncertainty is the most “important underlying difference between the conditions which theory is compelled to assume and those which exist in fact” (1921, 51). Lamberton (1965, 57) regards as imprecise Knight’s distinction between risk and uncertainty. On the other hand, LeRoy and Singell (1987) claim that Knight’s notion of uncertainty means that agents “assume” or act “as if” they have subjective probabilities; an approach anticipating modern issues such as asymmetric and costly information, the adverse selection problem, etc.

¹⁸ Elsewhere, Knight wrote: “the true uncertainty in organized life is the uncertainty in an estimate of human capacity, which is always a capacity to meet uncertainty” (1921, 309). He held individuals who are the less risk-averse and the abler become entrepreneurs (1921, 273-4, 282-3). The first entrepreneurial characteristic has been verified by Kihlstrom and Laffont (1979), while the second by Laussel and Le Breton (1995).

The need for entrepreneurship and managerial control in the firms, according to Knight (1921, 267), is validated by the “presence” of uncertainty. Under conditions “of perfect knowledge and certainty such functionaries would be laborers merely, performing a purely routine function, without responsibility of any sort” (1921, 268). In regard to the function of the firm as a creation of entrepreneurship, he stressed that “the essence of enterprise is the specialization of the function of responsible direction of economic life, the neglected feature of which is the inseparability of these two elements, responsibility and control” (1921, 271).¹⁹ Hence, he claimed that the main function of the firm is the “reduction of uncertainty by consolidation” (1921, 298).²⁰

Another entrepreneurial function clearly acknowledged by Knight is not only the calculation of the marginal product of the various factors of production (1921, 103), but also the estimation of “the degree of dependability of the association between the (estimated) factors” (1921, 214). An additional estimation the entrepreneur had to make is related to the “future demand” of his products and/or services, and “the future results of his operations in attempting to satisfy that demand” (1921, 238). Consequently, the entrepreneur, in conditions of uncertainty, makes decisions through a prediction process, namely “as to what may be anticipated” (1921, 274).

As Knight notes in his preface to the 1957 reprint of his *Risk, Uncertainty and Profit*, the entrepreneur has a twofold function: that of minimizing the ignorance of other economic agents and of bearing the risk of uncertainty.²¹ As he wrote: “universal foreknowledge would leave no place for an entrepreneur. His role is to improve knowledge, especially foresight, and bear the incidence of its limitations” (1957, lix).²² However, the above theory of entrepreneurship as a function of bearing the risk of uncertainty did not answer the question regarding the dynamic entrepreneurial role that increases the uncertainty and the risks of other agents of production and

¹⁹ Knight recognized the simplest “division of entrepreneurship which . . . is the separation of the two elements of control and guarantee and their performance by different individuals” (1921, 289; see also page 291) as occurs in joint stock companies. However, in examining the consequences of such a separation of ownership from business control, he argued the risk of uncertainty is assumed by those selecting of the controllers of the enterprise, i.e. the owners (1921, 293-5; see also Langlois and Cosgel, 1993, 463). Thus, “the apparent separation between control and risk taken turns out . . . to be illusory”, as “in organized activity the crucial decision is the selection of men to make decisions” (1921, 297). For a detailed analysis of Knight’s views regarding the risk bearing in a corporation, see Weston (1949).

²⁰ Knight concluded the role of the entrepreneur and the firm are of primary importance for the function of the market economy. He noticed that “organization involves the concentration of responsibility, placing resources belonging to a large member of individuals under centralized control. Examination shows that the human functions in producing involve making decisions, exercising control, but that this control is not final unless combined with assumption of the results of the decisions” (1921, 308). Recent commentators variously reinterpret Knight’s theory of firm; for a relevant review, see Foss (1996).

²¹ Kirzner (1973, 83) criticized Knight’s theory by arguing that “what does not come through in the Knightian exposition is the active, alert, searching role of entrepreneurial activity”.

²² The role of experience and information in reducing cognitive entrepreneurial uncertainty has recently been analyzed by Buchanan and di Piero (1980).

entrepreneurs.²³ And as Shackle (1969, 21) rightly observed: “if decisions are undetermined, the consequences of action are uncertain. But the businessman is not merely the helpless victim of uncertainty. He is at all times actively promoting it”.

During the same time, in the Continent, there were developed some ideas and theories about the entrepreneurial characteristics and functions which deserve mentioning and comparison with those of the Americans.

The most adequately developed theory was that of Marshall who stressed (1890, 255, 336) individuality and economic freedom as the main prerequisites of the function of entrepreneurship. He described (1890, 208, 244, 248) such a functional role to be mainly that of controlling, managing, directing the enterprise and assuming its various responsibilities. Such an entrepreneurial function, which was adopted also by Edgeworth (1881, 32-3), lies on the old traditional British theory (see Karayiannis 1990) and particularly that of J.S. Mill (1848, 406-7).

By conducting such activities, entrepreneurs, according to Marshall (1890, 332, 490), assume various risks, some of which are unforeseen and thus uninsured. However, such an assumption of risks by the entrepreneur was treated by Marshall as a “symptom”, rather than a special function. He claimed only the proprietor of the firm assumes the various risks (1919, 645) and is rewarded by gross interest, i.e. net interest as a reward for “waiting” and “allowance for insurance” (1890, 69, 193, 294, 488, 512; 1919, 809).

Except of the above justification of the entrepreneurial function, Marshall (1890, 248, 296) clearly recognized two kinds of entrepreneurial innovative activity as sources of economic progress: establishing a new and/or more efficient method of production, and introducing a new product (see also Karayiannis 2005a). He furthermore discriminated (1890, 206-7; 1919, 203) the economic motives for inventions and innovations produced by different persons, the first by the scientist and the second by the entrepreneur. In other words, Marshall anticipated some ideas developed later on by Schumpeter in his theory of entrepreneurship.

Another English economists of the period who specifically analyzed entrepreneurship, was Hobson. He followed Marshall’s treatment of the entrepreneur as the fourth factor of production (1909, 12) who plans the business, buys other factors of production, organizes these factors and markets the product (1909, 123; 1911, 143). The entrepreneurial ability which, according to Hobson (1909, 126), is “creative” and not imitative as that of laborers, is activated also in promoting innovations mainly in producing new products and in establishing new more productive methods of production (1909, 127; 1911, 155). By extending Marshall’s ideas for innovation process, Hobson emphasized (1909, 130) the role of imitators entrepreneurs in reducing the level of price and increasing the welfare of consumers. He characterized the innovator’s short-run extra profit as “the price of progress” (1909, 131).

²³ Knight, later on (1942, 128). acknowledged the function of the innovative entrepreneur in an uncertain environment. Bewley (1989) extends such a thesis by developing a model in which innovators are unusually low-level uncertainty-aversers.

A.C. Pigou regarding the issue in question, departed from Marshall's theory. By noticing "uncertainty bearing as a factor of production" (1920, 771), he emphasized the entrepreneurial function of assuming the various risks of uncertainty (1920, 165, 656-7, 780). Without any reference to Hawley's contribution, he claimed such a function is of paramount importance for the continuation of production process in conditions of unforeseen future events (1920, 771-3). Although he strictly recognized innovations in producing new goods and/or diminishing the cost of production, he did not relate such a function with entrepreneurship (1920, 671, 673).

Another British economist specifically engaged with entrepreneurship, was Lavington (1925; 1926) who although extensively analyzed the various causes, effects and rates of risks and uncertainties, he rather based such a function upon organizational and efficiency grounds of the entrepreneurial function. He claimed the main function of the entrepreneur is not the assumption of the various risks but that of reorganizing and readjusting the various resources of the enterprise "to imperfectly known, and changing conditions" (1925, 196).

From the other Continental economists, the Italian Maffeo Pantaleoni (1898, 279-82) and the Swedish Gustav Cassel (1918, 100, 171, 176) are the well-known economists who followed the Marshallian entrepreneurial function. Cassel, in addition, justified profits on the grounds of F.A.Walker's theory (1918, 100, 176). Notwithstanding, during the same period, it was developed the well-known and influential entrepreneurial theory of J.A. Schumpeter. His theory which remained unnoticed by early commentators of entrepreneurship (see e.g. Tuttle, 1927a; 1927b; Warburton, 1928), is framed the following fundamental ideas and arguments.

Schumpeter (1911, 77), by not accepting Marshall's theory of the entrepreneurial function as management, built a new one, which contained many original ideas. He analyzed entrepreneurship as an ideal theoretical type which, has many important empirical characteristics (1911, 81) and theoretically dispose no any property right on the factors of production (1911, 101). He credited to entrepreneurs mostly with psychological and social in character motives, such as the will of independence, of distinction, of creation, and of wealth (1911, 93). Some of these motives as is mentioned above, were recognized and emphasized by some American economists.

The entrepreneur, according to Schumpeter, is the prime mover of economic development (1911, 74-5) by fulfilling specific innovations, such as: "the introduction of a new good"; "the introduction of a new method of production"; "the opening of a new market"; "the conquest of a new source of supply of raw materials or half-manufactured goods"; and "the carrying out of the new organization of any industry" (1911, 66). He gave paramount importance to entrepreneurs not only in changing the technological standards of economic process, but furthermore in scheduling and determining consumers' preferences (1911, 65). In explaining the innovative process, he distinguished, as has done Veblen, Davenport and Marshall, the invention from innovation function (1911, 88-9). Besides, he turned against the risk assuming function of entrepreneurship, claiming "the entrepreneur is never the risk bearer . . . the risk falls on him as capitalist or as possessor of goods, not as entrepreneur. Risk-taking is in no case an element of the entrepreneurial function" (1911, 137). In regard to profit, he

emphasized its character as a residual and product of the entrepreneurial innovative activities (1911, 129, 136). Moreover, such a profit, as the price of progress (1911, 154), has a short-run duration since the function of imitators would eliminate it (1911, 131-3, 135, 137, 152).

From the above analysis may be deduced that American economists had advanced original ideas about the characteristics and roles of the entrepreneurs. More than to follow the classical tradition, they introduced the distinction of roles between the capitalist and the entrepreneur and developed well structured entrepreneurial theories (dynamic-innovative, risk of uncertainty) Also, they anticipated some important ingredients of relevant theories developed in the Continent during the same period. Hence, it may be deduced that the American economists engaged in analyzing the phenomenon of entrepreneurship more pioneering and intensely-with the exception of Schumpeter-than their Continental colleagues did. As Dobb (1925, 17) had relatively pointed out, “until the last quarter of the 19th century economists in Britain had only the vaguest conceptions of the undertaker’s function”. And Schumpeter, who tried to explain why the American and German economists worked more intensely on the issue of entrepreneurship in relation to the British, commented: “It is a question of some interest why most of this literature should have been either American or German. Perhaps because the figure of the entrepreneur was at that time more prominent in the United States and in Germany than it was in England or France? Or perhaps also because at least the English economists took the entrepreneurial function and entrepreneurial profits so much for granted as to see little need for more analysis of them than they found in Marshall” (1954, 895, ft 7).

3. ENTREPRENEURIAL REWARD

The majority of the American economists clearly considered profit to be the main residual of distribution. A significant number of them also differentiated its rate according to entrepreneurial abilities and characteristics. More specifically, F.A.Walker, in his *Political Economy* (1883) developed the theory “of the rent of ability” in justifying differential profit rate (see Cannan 1929, 358; O’Brien 1929, 63-4; Newton 1967, 29-35). By treating wages as the residual of income distribution process (1887, 282-3), he regarded that the minimum rate of profit is a reward for normal entrepreneurial ability in managing the enterprise. Such a minimum rate, “would be the amount of profits necessary to keep alive a sufficient number of the employing class to transact the necessary business of the community” (1887, 270). A rate of profit higher than the minimum is justified as a reward for special entrepreneurial abilities and may be treated like the rent of land (1887, 278, 288).²⁴ This rate of profit represents that which the entrepreneur has produced “over and above what the employers of the lowest industrial grade have been able to produce with equal amounts of labor and capital” (1887, 282).

²⁴ Such a theory that differential profit rates are justified on differences in personal entrepreneurial abilities has been employed theoretically (see e.g. Lucas 1978) and empirically verified (see e.g. Littunen 2000).

F.A.Walker's theory of profit has drawn some critiques immediately after its appearance. For example, Macvane, argued that F.A.Walker's "theory is, in reality, not a theory of managers earnings at all, but a theory of the differences in managers earnings" (1887, 10). Thus, "I cannot but regard as unreal and misleading the analogy assumed by Mr. Walker between earnings of management and rent of land. Rent could have at most an analogy to differences of earning; for the basis of rent is not production, but differences in production" (Macvane 1887, 11). Hawley (1890, 388-9), basing his conclusions upon the function of a joint-stock company, maintained that F.A.Walker's profit theory could not stand, as there exists a strict separation of ownership and control of the enterprise and the reward of managerial ability is included (as a reward to the salaried manager) in the cost of production.²⁵

Notwithstanding, some additional critiques appeared on the other side of the Atlantic. Marshall commented "I am nearly in agreement with General Walker's Theory of Profits; but there is, I think, a real though small difference between us. I do not regard the analogy between rent and the earnings of exceptional ability as confined to the task of business management" (1887, p. 477). Such a reward, for Marshall (1887, 479), must be included into the cost of production. A year later, Sidney Webb (1888, 203), in criticizing F.A.Walker's theory, stressed that profits "actually depend, not only on skill and on the amount of capital employed, but largely also upon opportunity and chance" in a form perhaps best described "as rent of opportunity". Therefore, there does not exist any tendency of profit equalization among the various firms, not only in different sectors of production, but also within the same sector (1888, 206).

However, F.A.Walker's theory of profit proved very influential explicitly in the short-run and implicitly in the long-run.²⁶ More analytical, in a slight variation it was followed and extended in England mainly by Marshall and Hobson. Marshall (1887, 477, 479-80, 503 ft1, 518 ft1) accepted with some qualifications F.A.Walker's theory of profit as remuneration or "rent" of entrepreneurial ability. He characterized as "quasi-rent" the differential profit accrued by the different abilities of entrepreneurs (1890, 351-2, ft, 508). Such a rent, "of rare natural abilities may be regarded as a specially important element in the incomes of business men" (1890, 517). Marshall, justified (1890, 508-9) the differential profit level mostly on variations in managerial and salesmanship abilities, rather than innovation. Also, he claimed (1890, 45-60) that special entrepreneurial ability, behavior and training deserve a special reward; an argument already put forward by J.S. Mill (1848, 411, 476).

Hobson, by following F.A. Walker (1900, 171, 176) and Marshall, considered profits as the reward of the organization ability of the entrepreneur, as "the difference between [the expenses for the factors of production] ... and the prices obtained for the product constitutes his profit" (1909, 58; see also page 129). Such a reward is measured as the difference in productivity between the unorganized and organized production process (1909, 123; 1911, 145-6). This rate of profit is the theoretical maximum, while its

²⁵ F.A.Walker responded to these and other critiques in two papers (1888; 1891).

²⁶ Hollander (1902, 271) noticed "Walker's theory of distribution ... represents a reaction born of intimate acquaintance with American economic conditions from the traditional doctrines of the English classical political economy".

minimum is equal to “a payment necessary to evoke and to support the energy of the entrepreneur”, and is regulated “by his alternative individual productivity as a worker” (1909, 124); mainly of a salaried manager (1909, 128). The market rate of profit is determined between these two limits as there are various obstacles to the supply of entrepreneurship, such as special education, market knowledge and necessary capital (1909, 125). He makes clear (1909, 129-130) profit is the residual element of production, a kind of surplus after payment of contractual incomes.

F.A. Walker’s theory of profit was explicitly acknowledged, analyzed and followed by many well-known Anglo-Saxon economists on both sides of the Atlantic, such as Pantaleoni (1898, 278-9), Davenport (1907, 91, 400), Taussig (1911, 172-3), Simpson (1919, 152), Dobb (1925, 66), Tuttle, (1927b, 512-3), and Cannan (1929, 358). Moreover, this theory was included in textbooks, as e.g. Ely and Wicker (1904, 431) and Gough (1920, 248, 250-1).

In the long-run we can say it is implicitly incorporated-with the additional influence of Marshall-in the mainstream competitive model, as a source of rent for a scarce and non-reproducible resource of the entrepreneurial talent (see e.g. Ryan, 1967, 220-2). Such an element is included in the cost of production, “as the entrepreneur is considered to hire such a resource by himself” (Kirzner 1997, 69, ft 17).

From the above analysis may be deduced F.A. Walker’s theory of profit was the “orthodox” explanation shared by the majority of neoclassical economists during the late decades of the 19th and the early decades of 20th centuries, both in America and on the Continent.

However, during the period in question developed some other ideas and arguments regarding the sources and rate of profits. More specifically, Ely (1889, 222) considered that there exist two kinds of profits remunerating the entrepreneur: (a) “conjunctural gains” which are “gains resulting from a favorable conjuncture of circumstances, which could not have been anticipated”;²⁷ and (b) “pure profit” which consists of two elements: “marginal” and “differential” profit. “Marginal profit,” according to Ely (1889, 223), is a rate of profit for remunerating “the most inefficient managers whose services are necessary to produce the required supply”. “Differential profit,” on the other hand, is justified because of the special skills of the entrepreneur.²⁸ Hence, “more efficient entrepreneurs will ... be able to secure a greater return in profit, representing the difference in efficiency between their management and that of the entrepreneurs of marginal efficiency. The first sort of profit may be called the necessary or minimum or marginal profit; the second, the differential profit” (Ely 1889, 223). He recognized there exist some activities through which the entrepreneur creates a short-run monopoly and thereby gains additional profit. He regarded patents, copyrights and trademarks are some sources of monopoly profits, guaranteed and protected under social action (as in the case of legislation) or by social tolerance (1889, 258). Such profits are purely justified, since “a fit reward for valuable public services” aroused the “stimulus they

²⁷ A kind of profit accepted, characterized, and explained by Davenport as well (1907, 97, 103). The “conjunctural gains,” a term derived from the German word “Conjunctur”, as Marshall (1893) noticed, are justified by the various opportunities and advantages of the entrepreneurs.

²⁸ Davenport makes clear that entrepreneurs differ “in skill and in the direction of their skill” (1913, 152).

have given to authorship and invention" (1889, 259). Here, Ely had in mind the inventor-entrepreneur rather than the innovator-entrepreneur function (1889, 260).

For J.B.Clark, profit as a residual reward (1891a, 290; 1891b, 113; 1898, 7; 1899a, 203-4) is a product of the dynamic economy created by: (1) an increase in population; (2) an increase in capital; (3) an improvement of production methods; (4) a change in the forms of business enterprise; and (5) the multiplicity of consumers' wants (1899a, 56, 401). Such a pure profit, "is an incentive to competition" (1899a, 290-1) and it "is mercantile, and means that employers are selling their products for more than they are paying out in wages and interest" (1899a, 179). He argued this profit, above the normal remuneration of the entrepreneur's organization ability, is eliminated when the competitive forces of the economy are in operation (1899a, 111-2, 203). He advanced the idea that any innovative activity of the entrepreneur which decreases the cost of production, would result in a "pure profit" (1891a, 313). Such a profit exists until the role of imitators increase the quantity supplied and, thus, the rate of price returns to a new lower level which includes only a reward for the management of enterprise and/or the coordinator of the factors of production (1892, 46). J.B.Clark's theory of profit which proved influential to his own country (see e.g. Knight 1921, 32-39) did not remain ignore by the Continental economists. For example, Schumpeter (1911, 128, ft 1), mentioned that J.B.Clark's theory of profits "is nearest to mine". Dobb (1925, 69-70), commented that his "theory shows a distinct advance on the earlier rent theory, and seems to mark out fairly clearly the important guiding lines of production".

The American priority in justifying and determining pure profit as a distinct dividend of national income, was acknowledged at the very beginning. For example, Hollander noticed their theories were a product "of the industrial dominance of the entrepreneur and the signal inadequacy of prevailing theories as to his reward" (1902, 271). On the other hand, the majority of British writers (see e.g. MacGregor 1908), still confused in their distribution theories the rewards of the entrepreneur and the capitalist. More than that, the Americans continued the search for profit justification and determination.

In particular, Veblen (1904, 138, 154) considered the most significant element in an entrepreneur's schedule for increasing the earning capacity of the enterprise, is the capitalized value of intangible assets and, more importantly, the goodwill of the firm. He then argued that the earning capacity of a modern firm is much higher than the earning capacity of its material equipment, because of the element of intangible assets. This difference in the rate of earning capacity, he attributed (1904, 138-9, 172-3)- although not emphatically - to certain actions of the entrepreneur which result in a formation of "good-will" within the enterprise.²⁹ He reasoned (1904, 52-3) that there are specific entrepreneurial activities which increase the goodwill of an enterprise, such as the entrepreneur's proper behavior toward his customers and suppliers, his innovative activity, and his special market knowledge and information.³⁰

²⁹ Recently, Casson (1995, 87,210-6) showed that firm reputation and goodwill are not only a source of extra profit, but also a means for decreasing the rate of transaction costs.

³⁰ Foreman (1923; 1925) extensively analyzed the various kinds of enterprise's good-will as a source of business profits.

Profit, as a residual element of distribution, was also stressed by Taussig (1911, 159), who justified its differential rate according to the capabilities of the entrepreneur. He noted: “the elements of success are various- shrewdness in meeting risks as well as skill and ability in organization. But continued success is not due to chance. It is due to the possession by some individuals of qualities not possessed by others” (1911, 160). He concluded “the business man of the first order must have imagination and judgment; he must have courage; and he must have administration capacity” (1911, 163).

Davenport (1913, p. 66) distinguished between “necessary” profit which is a part of cost remunerating the labor of the entrepreneur, and “unnecessary” profit which is a “differential above cost” (1913, 67) and is the compensation for entrepreneurship (1913, 67). He also claimed that scarce services offered by the entrepreneur, such as goodwill and patents, deserve and justify an additional entrepreneurial reward (1913, 129, 131). While considering unnecessary profit to be a residual element, he realized, in its broader aspect, it may be regarded as “compensation for the independently gain-acquiring human factor in economic activity” (1907, 98).

A rather different justification of profit was advanced by Foreman. He divided between two kinds of pure entrepreneurial profits: the positive utility profits and the risk utility profits (1918, 321). He considered the first kind of profits or the “efficiency” profits (1919, 128), to be the fruit of innovative activities of the entrepreneurs in reducing costs and advancing the quality of products (1918, 317; 1919, 129-30, 133). The second kind of profits he credited to entrepreneur’s efficiency in reducing the various risks (1918, 317). Thus, “a positive utility profits in the direct result of an added productive force; a risk profit is a utility profit rescued from destruction” (1918, 321).

According to Knight, profit as a residual and non-contractual income (1921, 271, 280), is the outcome of the different operation “between perfect competition and actual competition” (1921, 19). Also, it is a result of the non- perfect foreseen (1921, 35,37,38), or non-calculable *ex ante* economic changes (1921, 47).³¹ Profit, in this sense, is a non- functional reward and arises “from the fact that entrepreneurs contract for productive services in advance at fixed rates” and realize profit “upon their use by the sale of the product in the market after it is made” (1921, 197-8). Thus, the assumption of the risk of uncertainty is simply the basis “of a valid theory of profit” (1921, 20). As he claimed in his 1957 preface: “uncertainty explains profit and loss; but profit, when it occurs, is not properly a reward for risk-taking, though the expectation of gain is the incentive for assuming the entrepreneurial role” (1957, lix). In conclusion, profit “falls of necessity to the person in responsible control of business” (1921, 306) and “arises out of the inherent, absolute unpredictability of things” (1921, 311).

Knight also recognized a differential rate of profit originating in entrepreneurs’ individual attributes and capacities,³² such as: (1) differences in their “capacity by

³¹ Knight agreed with J.B.Clark in regards to the source of profit. He also stressed (1934, 540-1) “uninsurable risk is in fact associated chiefly with economic change”.

³² Similar justification of pure profits developed also by Pigou (1920, 776) who claimed “the payment for uncertainty-bearing ... consists, not in the whole of the excess above normal profits earned by these successful undertakers, but only in that (generally small) part of this excess which is not cancelled by the

perception and inference to form correct judgments" (1921, 241); (2) differences in their "capacities to judge means and discern and plan the steps and adjustments necessary to meet the anticipated future situation"; (3) differences "in the power to execute the plans and adjustments" needed; (4) differences "in the amount of confidence which individuals feel";³³ (5) differences in "conative attitude to a situation upon which judgment is passed with a given degree of confidence" (1921, 242); (6) differences "in their powers of effective control over other men"; and (7) differences "to act to their opinions, to venture" (1921, 269). Generally speaking, Knight (1921, 277-8), remembering F.A. Walker, considered that the profit rate is determined by entrepreneurs' ability and the demand for, and supply of, entrepreneurship. He held that the demand for entrepreneurs "depends directly upon the supply of other agencies", while its supply "involves the factors of (a) ability, (b) willingness, (c) power to give satisfactory guarantees, and (d) the coincidence of these factors" (1921, 282-3). Notwithstanding, in more specific justification, he claimed that personal rate of profit is "a matter of (i) the failure of the judgment, or (ii) an inferiority in capacity, on the part of his competitors" (1921, 281). Profit, then, as a residual element of distribution is "a margin of error in calculation on the part of the non-entrepreneurs and entrepreneurs who do not force the successful entrepreneurs to pay as much for productive services as they could be forced to pay" (1921, 284). Moreover, it is determined by the ability of the entrepreneur to know and judge his own powers as well as the ignorance of other men (1921, 285); a justification accepted later on by other economists such as Machlup (1942, 15-6).

Knight's entrepreneurial theory of profit was very influential in the short and long-run. After its publication was immediately adopted by several economists. For example, O'Brien by extensively analysing Knight's theory (as also the relevant theories of Hawley and Hardy) adopted and advanced an uncertainty risk bearing entrepreneurial theory (see e.g. 1929, 19-20, 34-6. Hicks (1931, 172) generalized an uncertainty theory in justifying not only profits, but also for other rewards. He esteemed Knight's contribution by stating that he "has laid securely the first foundation on which any future theory of profits must rest - the dependence of profits on uncertainty. That is a service whose importance can hardly be over-estimated. It commits us finally to one and one only of the various roads that earlier economists had explored. It put us on the right track" (1931, 170). Similarly, Lamberton (1965, 46), noticed that "Knight's book was if not the first, then the most significant elaborate statement of the connection between profit and uncertainty". F. Weston (1950,1954), by distinguishing between transferable and non-transferable risk of uncertainty, has shown that entrepreneurs are assuming the non-transferable kind of risk and thus receive profit, which is a non-contractual

corresponding losses of other undertakers who have fallen out of the race". Thus, pure profits remunerate "the temperament and knowledge" of the entrepreneurs (1920, 773).

³³ Knight was essentially correct, as Bernardo and Welch (2001) have shown recently. Overconfident entrepreneurs are more likely to be innovators and are more likely to explore profit opportunities.

reward. Such a Knightian approach was also employed by Bronfenbrenner (1960) to construct his “naïve theory of profit”.³⁴

Additionally, in the corpus of the modern neoclassical paradigm although its approach “is incapable of usefully addressing the issue of entrepreneurship” (Adaman and Devine 2002), have been developed various models based on the Knightian entrepreneurial theory of profit such as those of Kihlstrom and Laffont (1979), Bewley (1989) and Brouwer (2000). Also, in the neo-Institutional approach is employed Knight’ theory in analyzing some functions of the firm (see, e.g. Langlois and Cosgel, 1993; Langlois, 2005).

Except for the above, Knight’s theory occupies a specific place in many well-known economic textbooks, such as Stonier and Hague (1964, 357-363); Baumol and Blinder (1979, 607-8); Fisher and Dornbusch (1983, 500); Ruffin and Gregory (1983, 378-9); and Sloman (1991, 162). Moreover, by conducting a simple statistical process for estimating the modern acceptance of entrepreneurial theory and reward, is found that in a random sample of twenty special treatises: 46% focus on the risk of uncertainty bearing, 31% on the organization/coordination function, and 23% on innovation (see Karayiannis 2005b). Thus, the theory of bearing the risk of uncertainty (mainly developed by Knight) may be regarded as the main and time lasting contribution of American economists on entrepreneurship.

From the above discussion regarding profit and its justification it may be concluded that, during the late 19th – early 20th century, the majority of American economists shared the theory that profit is the residual of income distribution. Moreover, although some of them attributed the source of profit to special unforeseen market conditions, the majority, recognized two significant elements of such an income: the remuneration of pure entrepreneurial activities and the reward of personal characteristics and abilities. Their impact on the evolution of economic science has a short and a long-run continuation. Namely, F.A. Walker’s theory of entrepreneurial profit proved influential in the short-run (until the first decades of the 20th century), while that of Haynes-Hawley-Knight theory of entrepreneurial function has a long-run –and still lasting- impact. Moreover, their theory of the entrepreneurial reward as the residual of production is still employed in the whole spectrum of economics, while the justification of differential profit rates on entrepreneurial abilities, knowledge and personal good-will, are still used in theoretical and empirical researches.

³⁴ On the other hand, Knight’s theory was strictly criticized by some economists. For example, Streeten (1949, 266-282) argued Knight’s explanation of profit did not differ essentially from his explanation regarding other incomes and, in addition, his theory was unable to encompass the modern organization of the market (i.e. the corporations). Knight’s theory also contradicts, as Easterbrook (1949, 327-331) observed, the purposeful activities of entrepreneurs to establish “entrepreneurial security” by all means which is a specific environmental characteristic of entrepreneurial function. Kirzner, commented (1973, 83) that Knight by “treating profits as a residual fails to disclose that from the point of view of the prospective entrepreneur the profit opportunity is, with all its uncertainty, there”. Also, Schultz (1980, 441), criticized the Knightian profit theory on the grounds that risk-bearing activities are assumed not only by entrepreneurs, but by other agents as well, such as laborers.

4. CONCLUSION

From the previous analysis may be concluded that the originality and priority of the American's contribution on the issue of entrepreneurship is not only obvious but very important and influential. There are various explanations for such a wealth noticed contribution. For example, Knight (1921, 302-3) argued that American economists gave priority to short-run dynamic changes and their consequences on the emergence of profit, while, on the other hand, European economists tended to develop a long-run theoretical analysis. Cochran (1968, 89), mentioned "the relatively early development of big corporations in the United States led American economists to think of entrepreneurship as a faction separate from either ownership or the supply of capital".

More than that, the relevant American economists' originality and priority may also be explained by the advanced credit system that existed at that time in America, where more opportunities were available to persons having entrepreneurial spirit and activities, but inadequate capital. Also it may be explained by the existence of the relatively open, classless society Americans, in contrast to Europeans, enjoyed during this period. To the ordinary American, attaining the "American Dream," was a prevailing hope and achievable goal, the attainment of which was primarily made possible by the individual's involvement in entrepreneurial activity.

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Anastassios D. Karayiannis
Economics Department
University of Piraeus
Piraeus
GREECE
adkar@unipi.gr

NEXT ISSUE

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