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The legacy of Ajit Singh (11 September 1940–23 June 2015)

Memories and tributes from former pupils, colleagues and friends

Ajit Singh taught at Cambridge from the mid-1960s on. He was an inspiring, supportive but demanding teacher to which several contributors' fond memories attest. Ajit was an extremely hard worker, and his output of frequently seminal articles and books, all of which exhibited innovative theoretical approaches and most careful relevant empirical work, was prodigious. This is all the more remarkable as he had to battle with the effects of Parkinson's disease from the early 1980s on.

We have gathered here together a number of tributes from his wide circle of friends, colleagues, and former pupils, mostly overlapping sets. The tributes between them show what a range of important issues Ajit worked on, how early he became aware of them and how perceptive his findings and often predictions proved to be.

Before I urge readers to read on, may I add a personal note? Ajit and I were close friends from 1963 onwards and colleagues for many years. I wrote in the Foreword to the 2008 volume in his honour, edited by Philip Arestis and John Eatwell, that I wished

> to pay a personal tribute to his kindness, support and consideration over the many years of our friendship. Ajit has never been a narrow-focused economist; he has always been well informed on and involved in the major political issues of the day (with which he combines an encyclopaedic knowledge of what is happening in world cricket). When I returned to Australia in early 1967, I was meticulously briefed by Ajit (and Martin Bernal) on the history and then present position of the Vietnam War, which stood me in good stead when I became one of the leaders of the anti-Vietnam War movement in South Australia. (Harcourt, 2008: xiii)

That volume and this collection of tributes suitably witness the achievements of the splendid scholar and admirable human being we knew Ajit to have been.

GC Harcourt
The University of New South Wales, Australia

Pathbreaking explorations

Born in 1940 in Lahore, Ajit Singh received his early education at Punjab University. In 1959, he won a scholarship to study Economics at Howard University, Washington DC. In 1960s, he moved to the University of California at Berkeley – a move that significantly shaped the rest of his life. While very proud to have been taught by, and to have working with, leading orthodox economists such as Leibenstein, Scitovsky and Jorgensen, he came under the influence of the then-radical economist, Robin Marris. At that time, Marris was working on his path-breaking book *The Economic Theory of Managerial Capitalism*, and Ajit was his research assistant during Marris' visit to Berkeley in 1960–1961. This collaboration led to his choice of PhD dissertation topic and subsequently in 1971 to one of his key publications – *Takeovers: Their Relevance to the Stock Market and the Theory of the Firm*.

Berkeley at that time was a hotbed of student politics that led to the birth of the Free Speech Movement and the development of direct action by students in North America and Europe in the late 1960s. Particularly during the 6 months when he returned there in 1964, Ajit developed from a quiet, serious young man into the firebrand that he later became in Cambridge. Marris invited him to Cambridge to continue working with him, and he was appointed as a research officer at the Department of Applied Economics in 1963. He was then elected to an assistant lectureship at the Faculty of Economics and Politics and to a fellowship at Queens' College the following year.

Ajit's initial research focussed on the modern corporation and the role of stock markets in economic growth. At first, this work focussed on advanced economies, but it developed in later years to the role of stock markets in developing economies. He subsequently made major contributions to the study of de-industrialisation and of long-term structural change and growth in both developed and developing economies, as well as to development policy. His research led him to be an implacable critic of the neo-liberal IMF (International Monetary Fund) and World Bank 'Washington consensus' belief that budget austerity, de-regulation, privatisation and open market policies are essential to achieving stability and growth. Above all, he was an outstanding academic who believed in open debate with those from whom he differed over theoretical and applied work and above all policy implications.

Apart from working with Marris in Cambridge, Ajit formed a close relationship with Geoffrey Whittington. Together they pioneered the use of computer-based analysis of large-scale corporate databases which they also helped create and which underpinned decades of subsequent research by themselves and others. The publication of *Takeovers* was delayed by work on the book they co-authored, *Growth, Profitability and Valuation*. As Ajit wrote at the time of the publication of *Takeovers*, 'A study of surviving firms took precedence over an examination of those which did not survive – it is a moot point whether this is a correct order of priorities'.

The theoretical analysis in *Takeovers* is rooted in the theories of the firm proposed by Baumol, Marris and Williamson. These theories were linked to the 1930s work of Berle and Means on the development of corporations with dispersed share ownership and professional managements, whose motivations did not necessarily align with those of the shareholders. A pursuit of increased size for reasons of personal aggrandisement and higher rates of remuneration would, it was argued, predispose such companies to pursue growth in size at the expense of profits. In these circumstances, Marris had hypothesised that takeovers would constitute a market for corporate control which would select the fittest companies for survival and act as a curb on managerial cupidity. Ajit's analysis showed conclusively that, in the UK, there was no empirical basis for this view. Firms seeking to avoid takeover were better off pursuing increased size by takeover rather than increases in long-term profitability. His subsequent research over several decades with other colleagues at the Department for Applied Economics and at the Centre for Business Research demonstrated that mergers and acquisitions might yield quick financial returns to the participants, but little long-term benefit to shareholders or the economy. On the contrary, induced myopic behaviour of companies too narrowly focussed on their short-term stock market valuation, and the threat of takeovers could reduce economic competitiveness.

A proud Sikh, Ajit was nevertheless an atheist. He was a radical challenger of orthodoxy, yet a devoted Fellow of Queens' College, Cambridge for over 50 years. He was a remarkable sight in Cambridge during the 1960s and 1970s: with his black beard, brightly coloured turban, and an upright and athletic bearing; he was full of energy and confidence.

England was to become his home until he died. He cared deeply about the country and became a British citizen, but he remained a true Indian. It is a great pleasure to report that he completely failed the 'Tebbit test' as witnessed by the light-hearted debates with his friends when India was playing a test match

An active member of the left, Ajit was a stout defender of non-orthodox economics and of student rights. This led to fierce battles with some colleagues at the Economics faculty and Queens' College. Despite the intensity of these debates, he refused to be drawn into a battle of personalities, preferring the battle of ideas. As a consequence, he was widely liked and respected, even by those whose ideas diverged substantially from his own. As a teacher, he was inspirational, if a little awe-inspiring. He taught students to follow the principles of his own work. Know your enemies – you cannot criticise their work until you fully understand it. Understand and respect data – without that you cannot properly test your theories. Master statistical techniques – not simply to display your knowledge of them, but for the insight they can give your empirical work.

In the mid-1970s, his work turned to the study of the relationship between de-industrialisation, long-term structural change and economic growth, first in advanced countries and then developing economies. A key theoretical contribution in this work was the view that a country needs a manufacturing sector that is large enough to ensure a sound balance of payments at a socially acceptable level of economic activity (employment) and a socially acceptable exchange rate. This formulation is as relevant today as it was in 1977. In later work, he related the lack of competitiveness in certain economies to the myopic behaviour of companies too narrowly focussed on their stock market valuation and the threat of takeovers.

For the 30 years after his 1982 diagnosis with Parkinson's disease, Ajit took on a daily workload and travel schedule that would have given difficulty to a healthy young man. It was remarkable feat of will power that lasted, without self-pity, until the very end. His friends are grateful for the important roles played by Jo Bradley and Anne Zammit in helping him achieve this.

From the 1990s onwards, his work concentrated increasingly on developing economies and on the form of national and international policies relevant for their economic and social development, and most recently with colleagues at the Centre for Business Research, Cambridge, on the link between systems of corporate and labour law and economic development. The latter challenged the then-dominant pre-Crash view that financial systems would converge towards liberal de-regulated stock market–based forms such as that of the US, and away from more bank-based civil law systems such as Germany's. His earlier studies of corporations and stock markets in developing economies showed the rapid growth of newly listed companies and, in contrast with corporations in advanced countries, how reliant they were on external sources of finance. He argued that the capital account liberalisation advocated under the Washington consensus in the 1990s would leave them exposed in times of adverse circumstances, and this concern proved to be well-founded. This debate, in which he was an early participant, mirrors those taking place in Europe following the financial crisis of 2008.

Ajit's work led to many honours and marks of distinction being conferred upon him. He was appointed to an *ad hominem* Chair in Cambridge in 1995, and in 2010 to the *Tun Ismail Ali Chair* in International Finance and Economics at the University of Malaya. He received the Glory of India Award in 2011 for 'individual excellence … and for an outstanding contribution for the progress of the nation … and worldwide'. Manmohan Singh wrote in 2007 (when Prime Minister of India),

> His grasp of the microeconomics of industrial organization and change as well as his understanding of the macro economics of development have helped him traverse a wide field of research in development and industrial economics. I have greatly benefited from Ajit Singh's understanding of the processes of development in an increasingly globalized world.

Ajit Singh will be remembered as a man who relentlessly pursued knowledge that he hoped would improve the human condition, the *sine qua non* of a left-wing social scientist. Above all, despite his intellect and status, he was accessible to everyone and had no pomposity. He will be missed for those twinkling eyes full of humour, his determination in the face of adversity and his considerable charm. But above all, he will be remembered for his loyalty to his friends, his colleagues, his beloved Queens' College and to all those hundreds of students he taught and mentored over the last 50 years.

Andy Cosh and Alan Hughes
Centre for Business Research, University of Cambridge, UK

Scholarship and values – global, national and environmental

Ajit Singh, Emeritus Professor of Economics at University of Cambridge and a long-time associate of Indian academia, died on June 23 in his Newnham home in Cambridge. The news has been received with immense sadness by all who knew him in different capacities, not just in terms of his valuable contributions in economics but also as a friendly soul whose generosity knew no bounds. Ajit, diagnosed with debilitating Parkinson's disease early in his life, took up the challenge by being intellectually at his best while struggling with a progressive decline in his physical abilities for more than 30 years.

Ajit was formally attached to a number of institutions in England: the Faculty of Economics at Cambridge University, Queens' College, Cambridge where he became a life Fellow, and the Judge Business School as a Senior Research Fellow. He was an academician of the UK Academy of Social Sciences, and associations overseas reached to the

University of Malaysia where he held the Tun Ismail Ali Chair, the University of Punjab in India where he held the Manmohan Singh Chair, and the Hall of Fame of the Economics Department of Howard University.

While he lived in England for most of his adult life, Ajit kept a close watch on the Indian economy. His frequent visits to India helped him to keep up with ongoing changes in economic policies and in the political scene, both of which were of paramount interest for him. When the Punjab University, his alma mater, offered him a prestigious chair in 2012, Ajit's regular visits to Chandigarh and Delhi, and contacts with Indian institutions as well as colleagues and students, became much easier, as Ajit always wanted it to be.

Ajit was no fatalist, in life or in his views of the future. Despite the concerns and reservations which he would often share with friends and colleagues on the changing economic and political scene in India, he continued to maintain a positive stance on India's future path, abiding by his statement in November 2010 when he received the 'Glory of India Award' (for 'individual excellence, excellent performance and outstanding contribution for the progress of the nation and worldwide'). At the Indo-British Friendship Banquet held in London in September 2010, he said, '… the breath-taking economic progress of China and India since their independence from colonial rule is the inspiring story of the last three decades, and long may it continue …'.

Writing prolifically over nearly four decades in reputed journals and edited volumes, Ajit Singh made major contributions which include corporate finance, relating to both advanced economies and emerging countries. They included a detailed firm-level study comparing the emerging and developed countries in relation to the capital structure, asset structure, rates of return and financing patterns, across countries and over time. Other studies included competition policy in emerging markets, the inappropriateness of stock markets in emerging economies as for a means of resource mobilisation and allocation, and the limitations of the 'transatlantic consensus' in using the trade and technology-based comparative advantage as the desired path of development. Thinking about the Asian crisis, Ajit made a trenchant critique of the Greenspan-Summers-IMF thesis which relied for their diagnosis on a set of micro economic policies considered unsuitable for such economies. He provided counter-arguments to the mainstream advocacy for de-regulation in the emerging economies, warning about the destabilising effects of capital account convertibility.

Ajit also had much to say on the controversial 'race to the bottom' in labour standards. While recognising the moral, political and philosophical dimensions of the core ILO Conventions 87 and 98, he felt the need to re-draft the ILO codes to take into account the difficulties of the vast informal sectors in developing countries in implementing labour standards. The ILO core conventions, he argued, should be broadened to cover the right to 'decent living', a suggestion which has been followed later by the ILO.

Ajit was concerned with the de-industrialisation process in UK which he pointed out was also relevant for emerging economies like India. This was a premature de-industrialisation of the Kaldorian type with a disproportionate rise in the share of services in GDP; in turn causing low levels of income, jobless growth and fast expansion of the informal sector. The pattern led him to ponder if the end result can be one with a service-led growth in India. However, for India, Ajit Singh continued to believe in the Nehruvian planning process, emphasising the government's co-ordinating role which included the institution of the Planning Commission as of major benefit for the country.

Two important themes came to his attention over the last years. Consistent with his position on economic nationalism, Ajit found a valid theoretical position as well as stabilising factor in Islamic Banking in the Arab world. His visits to Malaysia gave him insights into this theme. Most recently, Ajit had also engaged with what he saw as 'ecological destruction', with a plea for remedial measures to save the present and future generations of humanity.

Ajit Singh was a true nationalist who did not want any compromise on the sovereignty of the nation state when it came to strategic issues, which for him included national control over volatile capital movements and prudent regulation of the financial sector in the national interest. This goes with his long introduction to the symposium of five papers on financial globalisation in the *Cambridge Journal of Economics* (Arestis and Singh, 2010) arguing how the interests of the poor in particular and developing countries in general, could be safeguarded against the vagaries of financial globalisation. Ajit Singh's contributions will continue to support his values in contributing to a better world.

Sunanda Sen
Former Professor, Jawaharlal Nehru University, New Delhi, India

A formidable economist

Ajit Singh was a graduate student at the University of California, Berkeley, and was one of a whole generation of outstanding radical economists who came out of the anti-Vietnam war movement there. Others included Bob Rowthorn, Brian Van Arkadie, Donald Harris and John Roemer. Robin Marris (1964), impressed with Ajit's applied work on firm behaviour, persuaded him to come to Cambridge in 1964 to join the Department of Applied Economics as a research officer. He became a lecturer at the Faculty of Economics and Politics in 1965, a reader in 1991 and a professor in 1995. He was also elected a Fellow of Queens College, a position he held until the end.

Ajit brought to Cambridge the full force of his Berkeley radicalism, which became evident in numerous ways. The first was a democratisation of the Economics faculty, where the Chairmanship of the Faculty and membership of the Faculty Board (that took all crucial academic decisions) were thenceforth decided by elections among all those who were involved in teaching and research work. In addition, there were changes in the course contents and reading lists (that took cognisance of work outside Cambridge, including in the third world). New and radical courses were introduced, and teachers were asked at the beginning of their lectures to declare their ideological positions to students, so that the latter could better assess the intellectual content of the lectures. That was a period of intense student radicalism; in Britain, in addition to the anti-Vietnam war protests, there were massive student demonstrations against Enoch Powell's attempt to introduce a racist agenda into British politics. Ajit was a pillar of support for the students, a natural centre for resistance against any victimisation directed against them.

He also played a crucial role in starting or reviving intellectual forums where Left-wing dons could meet and discuss. I remember two of these forums in particular. One, called the Tawney Group (after RH Tawney), had Joseph Needham as its leader and also included Ajit, Bob Rowthorn, Charles Feinstein, Raymond Williams and many others, but its meetings were not very frequent. The other group, which met more frequently, consisted of faculty members and research students in Economics. It met often, but not exclusively, in Richard Kahn's rooms at King's College; at its meetings, somebody would present a paper that was then discussed. Ajit, with Bob Rowthorn (then in the CPGB (Communist Party off Great Britain)), was the soul of the Cambridge Left, and what they ensured was not that the Cambridge economics faculty became Left-oriented, but simply that a sufficient degree of democratisation occurred which gave the Left a fairer deal than usual.

That was also the period when Ajit did his really path-breaking research work. Analysing data on hundreds of companies quoted on the London Stock Exchange, he wrote two important books, one (with Geoffrey Whittington) called *Growth, Profitability and Valuation* (Singh and Whittington, 1968) and the other called *Takeovers: Their Relevance to the Stock Market and the Theory of the Firm* (Singh, 1971). 'Mainstream' economics generally propagates the view that the more profitable firms take over the less profitable ones, which is taken to mean that the market operates in an 'efficient' manner. Ajit showed that this was not the case, that typically it is large firms that take over small firms, and that the large firms are not necessarily more profitable than small firms.

His work, in other words, shifted the focus of attention from profitability to size and thereby validated the basic perception underlying Marx's theory of the centralisation of capital. Marx had argued that big firms drove out smaller ones, because of which every firm wished to become big by accumulating capital, so that accumulation became not a matter of volition on the part of the capitalists, but a necessity imposed upon them by the Darwinian struggle in which they were engaged, through competition with their rivals. In modern-day capitalism of course, firms are not driven out but get taken over when pushed to the wall. Hence Ajit's finding, that it is large firms that generally take over small firms, was a confirmation of Marx's insight.

Even if the Marxian view that firms accumulate capital under the coercive pressure of competition is accepted, it should still be the case, one can argue, that they would be maximising profits, since profits constitute the major source of accumulation. There is, it would appear therefore, a point of similarity between the two positions: the Marxian one and the marginalist one. Marx, like his predecessor David Ricardo, also postulated that firms move from activities with lower rates of profits to those earning higher rates, which meant that they always wanted to increase their profits, from where it was just a short step to call them 'profit-maximising'.

But this resemblance between the two positions is of little consequence since the quest for profits was located by them within very different settings. The 'profit-maximising firm' that the marginalist revolution fore-grounded *was completely free of any compulsion to accumulate.* 'Profit maximisation' in this theory was not conceptually inserted within any Darwinian struggle among capitalists, any tendency towards centralisation of capital, any tendency towards the formation of monopolies out of 'free competition' etc. What mattered from the marginalist perspective was just profitability and not size *per se.* Indeed in the much discussed case of perfect competition, *size had nothing whatsoever to do with profitability* (which therefore made the firm-size indeterminate in this case, and the marginalist theory logically untenable, as Sraffa had argued in his classic paper of 1926).

Ajit not only brought focus back on size, but even showed that large firms did not generally have a higher *mean* rate of profit; instead they had a lower *variance* across time in their rate of profit, achieving this by diversifying their activities. Large firms were more diversified than small firms (hence less exposed to risks) with a more stable rate of profit. Diversification enabled them to survive shocks better and hence to take over smaller firms which lacked this capacity.

In highlighting large firms' preference for risk-aversion, Ajit was reiterating a point made earlier by the well-known Austrian economist Josef Steindl. What Ajit's work showed, however, in contrast to that of Steindl, is that it was not a question of 'growth *versus* safety' but growth *through* 'safety-preference'. Large firms survived shocks better and thereby became even larger by taking over small firms which became vulnerable because of such shocks.

After his work on firm behaviour, Ajit shifted to studying development issues and together with several Cambridge colleagues set up a computable macroeconomic model inspired by Keynesian ideas, on the basis of which policies could be formulated as an alternative to the Fund-Bank prescriptions. It was, however, an essentially unequal struggle against the neo-liberal juggernaut, not because of any infirmity of the ideas of the Cambridge group (quite the contrary), but because of the enormous weight of finance capital that was backing neo-liberal policies.

The Keynesian opposition at Cambridge to Thatcherism (and its legacy), which brazenly privileged finance over industry, appeared in a refracted form in the debate about the 'deindustrialisation' of the British economy. Ajit played a major role in this debate, along with Bob Rowthorn and John Wells. The focus in this debate, however, was on defining a 'norm' with regard to the 'appropriate' size or characteristic of the industrial sector, relative to which Britain could be seen to have 'de-industrialised'. This definition of 'deindustrialisation', concerned with the *weight* of particular sectors rather than with any macro-level contraction effected through a decline of the industrial sector, was very different from the definition used in the development literature on the impact of colonialism, which refers precisely to the destruction of industry by imports from the metropolis that causes *overall economic contraction and unemployment* (though in disguise).

Ajit as an economist had an uncanny ability to get to the crux of any matter. He understood that the essence of the Keynesian Revolution was the recognition that the market could never distinguish between speculation and enterprise, which implied that *all properties of efficiency attributed to the market were invalid*. His abiding belief in the truth of this infirmity, which he used to resist neo-liberal arguments made Ajit a formidable economist of our time.

Prabhat Patnaik
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In memory of my friend Ajit Singh: Berkeley and beyond

I first met Ajit in the Fall of 1961, in the coffee shop of the International House, where we were both residents as graduate students at the University of California-Berkeley. I couldn't help but notice him. There he was, this tall, slim, impressive-looking figure, engaged in animated discussion with a gaggle of other residents. As I drew closer, I recognised the subject of discussion as the ongoing war in Vietnam and the role of the

United States in it. He was arguing against the war, in a calm but forceful and incisive manner, while others in the group either supported it or were ambivalent. Naturally, I joined in and on his side. That was the beginning of an enduring friendship.

We were then in the first year of the graduate programme in economics. During the rest of our time in Berkeley, we shared an apartment off-campus. This gave me an opportunity to appreciate his impressive home-cooking (keema was my favourite), to observe with admiration as he fastidiously performed the intricate process of tying the traditional Sikh turban and to learn to keep up with his distinctive gait (long, brisk strides in soldier-like fashion) as we walked to the campus.

From the start, it was evident that we had a lot in common, in terms of our respective personal history, ideas and professional interest. Born, like him, under British rule (he in India, I in Jamaica), in the last phase of the British colonial empire, we carried with us both the benefits of a British colonial education and, in equal measure, an intimate knowledge of the ravages of the colonial system, hence a deep understanding of the yearning and struggle for national independence and self-government then occurring throughout the 'underdeveloped' world. We had long and extensive conversations about these matters, in the course of which we learned a great deal from each other about our respective experiences and countries of origin. We read voraciously scholarly and popular works on contemporary movements and developments in the 'Third World' and shared review and critique of our readings. I vividly recall particular discussions we had, well into the night and for many days, about two then-popular works: *Red Star over China*, by Edward Snow (1944), and *Cuba: Anatomy of a Revolution*, by Huberman and Sweezy (1960). We were seeking to understand the nature of the dramatic political and social changes then taking place in those two arenas: one (China) from the perspective of someone with roots in India, the other (Cuba) from the perspective of someone with roots in the Caribbean. Those engagements encouraged us to approach our studies in economics with a keenly critical eye as we pushed ourselves to master the tools of the discipline in order to gain a better understanding of real-world issues, to the extent that those tools made it possible.

It became clear, soon enough, that Ajit was committed to doing empirical research in economics, keen to search for distinctive patterns in empirical data and tenacious in pursuing tests of economic hypotheses. After graduation, he quickly developed a strong interest in the structure and operation of corporate business and applied himself to continuing research on this subject under the auspices of the Department of Applied Economics at Cambridge, where he had found a natural fit for his talents and interests. His two path-breaking early works on firms' performance and valuation (Singh, 1968) and business takeovers (Singh, 1971) are testimony to his success in this effort. He followed up with a continuing effort throughout his academic career to examine and report on a wide range of other issues that firmly established his reputation as an outstanding contributor to the field of development economics.

It was clear also to me that he did not care much for abstract theorising in economics. In fact, in that regard, I know that he would have preferred me to 'get on with the struggle'. Perhaps I had a somewhat different conception of what that required of me. But that difference did not get in the way of our other shared interests.

I remember him now, as always light-hearted, jovial and quite a charmer in interaction with friends. He took a keen interest in the welfare of his friends and, to them, was kind and generous to a fault. He was proud of his national heritage and cultural practices, and yet with a strong sense of universalism. Above all, he was imbued with a deep sense of humanity, alert to social injustice and ready to fight for his strongly held principles of fairness, justice and human rights. He will be long remembered by those who came to know him well.

Donald J Harris
Professor Emeritus, Stanford University, USA

Wit and empirical rigour in pursuing debate

I got to know Ajit really well in his first years in Cambridge when we shared an office in the Department of Applied Economics (DAE), Cambridge, worked on the same project and became lifelong friends. In those days, he was politically somewhat to the left of Chairman Mao (moderated ever so slightly later in life) and I didn't agree with him on most of this, but the great thing about Ajit was that you could reason with him and agree to differ while remaining friends. He also had a wicked sense of humour and many interests outside economics. When we founded a departmental cricket team, we persuaded Ajit to play in the first game, because Bishen Bedi was then a top international bowler, and we thought that Ajit could do a fair imitation of his fellow Sikh. He duly obliged, rolling up off a short run, tossing the ball from hand to hand, a mesmeric twirl of wrists and elbows, he delivered a very slow, very straight ball. The batsman played for the expected spin and was bowled, middle stump. This was repeated twice more and the team won its first-ever match. There was, of course, no spin: this deception gave Ajit as much pleasure as organising a successful vote on the Faculty Board, which was his main preoccupation during the student revolution of the late 1960s.

Ajit's wicked sense of humour and his political commitment were often complementary; his comments on opposing views were often memorably aphoristic. When he first came to England in 1963, my wife and I took him to see Ely Cathedral, one of the glories of mediaeval architecture. On seeing this impressive Gothic pile emerging from the fenland mist, his first comment was 'Gee!' (he had just arrived from the USA), 'look at all that surplus value!' Since then, although I continue to admire Ely Cathedral as a work of architecture, I also remember the mediaeval peasants who toiled to build it.

Despite his opposition to orthodoxy in economics and politics, in many ways Ajit was very conventional. He always wore the Sikh turban and bangle and was extremely loyal to his family. He believed in the importance of social relationships and saw religious rituals as potentially a means of reinforcing them. He was also very proud of his relationship with Queens' College and particularly his eventual role as senior fellow. Above all, he subscribed to what I understand to be the traditional values of scholarship: a rigorous determination to seek out the truth and respect for the data – even when they deliver an unwelcome result.

As an economist, Ajit followed a rigorous programme of preparation through graduate studies in the USA, culminating in his doctorate at Berkeley. He told me that he did this because 'in order to be taken seriously by bourgeois economists, you have to understand bourgeois economics'. In other words, he believed in constructive criticism rather than mindless confrontation (although Ajit's ideal outcome of the process was, of course, that his opponent would see the error of his ways and agree with Ajit!). He was proud to have a leading 'bourgeois economist' such as Dale Jorgenson on his thesis committee, and he was committed to using the best techniques available. Hence, for example, in his doctoral dissertation on takeovers, he used multiple discriminant analysis, which was, at that time, a 'state of the art' technique, not previously used in that context.

He was committed to the pursuit of economics as a science with a sound empirical base. He was therefore extremely fastidious in his use of data. For example, when he needed to construct a measure of the firm's average share price over a period, I suggested to him that he could avoid a great deal of data collection by using the average of the high and the low share price for the period (a rule of thumb often used in the market). He did this, but not before testing the proposition so thoroughly that it resulted in his first published paper, 'A Measure of a Firm's Average Share Price'. Others might have been tempted to take the short cut without question, but not Ajit. He was equally committed to the careful framing of hypotheses and, in particular, to avoiding sophistication for its own sake. In this respect (and in his commitment to using data appropriately), he found a supporter and mentor in Brian Reddaway, the Director of the DAE at the time, whose unsparing criticism was invaluable as Ajit and I developed the research that culminated in the publication of *Growth, Profitability and Valuation* (Singh and Whittington, 1968).

After this early work in the DAE, our paths diverged. We did collaborate on an extension of our earlier collaborative work on the size and growth of firms (Singh and Whittington, 1975) and much later, when I returned to Cambridge, we collaborated on a study of how hyper-inflation affects the observed financing patterns of firms (Whittington et al., 1997). The latter was part of one of Ajit's studies for the World Bank, and it reflects the fact that he never lost his respect for the importance of using correctly specified data.

Although our academic paths diverged, we remained firm friends and I always felt an instant rapport with him. We often disagreed with one another, but we understood why we disagreed, and we enjoyed debating our disagreements. I learned an enormous amount from this process, for which I shall always be grateful.

Geoff Whittington
Emeritus Professor, Judge Business School, University of Cambridge, UK

Ajit Singh as mentor and teacher

Several generations of young scholars at Cambridge – a living legacy – have been or will be grateful to Ajit Singh for the rest of their careers for the inspiration and encouragement he gave them, and always as from an equal footing, without any talking down. I was an early beneficiary of his encouragement on arriving in Cambridge as a young Research Fellow in the late 1970s: Ajit was organising a lecture series on *Alternative Perspectives in Economics* and invited me to give two talks on the philosophy of economics – the graduate lecture course I went on to teach for the next 35 years developed from this. How many others just launching out on their research have had similar experiences of his support? It would be very hard to count them.

I came into close contact with him again in the last few years of his life, after I joined the Centre of Development Studies. He was at its heart. Our community will be in mourning for a long time. As well as lecturing and examining for our M Phil course, he was regularly present at other gatherings to add his insight. I think particularly of the amazing effort he continued to put into the PhD seminar at which our doctoral students present their ideas for advice and criticism. It was apparent that neither age nor prolonged and severe ill health had been able to defeat his intellectual excitement at new thinking and his concern with key problems of development and social justice: young researchers were gaining from his critical analysis and his enthusiasm almost until the end, just as so many years before.

Gay Meeks
Centre of Development Studies, University of Cambridge, UK

Pluralistic teaching – A student's memoir

In October 1975, I started studying for Part 2 of the Cambridge Economics Tripos at Queens' College, with Ajit Singh as my Director of Studies. Ajit's approach to teaching was important for my development and led to my interest in methodology and pluralism.

The very first essay asked us to discuss the view that 'The Hicks-Allen theory of consumer behaviour is utterly useless because it yields no testable hypotheses'. Instead of inviting some kind of regurgitation of indifference analysis or a simple comparative static application involving income and substitution effects, Ajit had posed a question that required us to understand the assumptive underpinnings and mechanics of the theory but which probed more deeply: did this theory have any empirical content and can a theory be valuable even if it does not offer predictions? At the end, Ajit noted that there actually was a prediction – the sign of the substitution effect would be negative – but the standard model of consumer behaviour was empirically weak because the evidence (most notably from Houthakker and Taylor, 1970) was that income effects were the prime driver of changes in the pattern of consumption.

The puzzle that followed from this was why substitution effects should be so weak. If my memory is correct, it was Ajit who first introduced Lancaster's (1966) trade-off-based characteristics model of choice to me in my final undergraduate year. Lancaster's theory has some similarities with the less well-known but more empirically grounded analysis of Ironmonger (1972). I didn't read Ironmonger's book at the time but instead looked at the review of it by Prais (1973) that Ajit had recommended. Prais argued in the review that the demand for new commodities diffuses through the economy like the spread of a contagious disease. (This process can be modelled in terms of sigmoid growth curves.) It is scandalous that, nearly 40 years later, most economics students are still not being introduced to the characteristics and social networks views of demand. I also count myself very lucky that Ajit introduced us to Leibenstein's (1966) *X*-inefficiency paper as it had a profound effect on my views on the firm. This key contribution is, likewise, something that most economics undergraduates will not encounter nowadays.

Ajit seemed to open each supervision, before anyone began to read their essay to him, by asking 'So, what fundamental analytical issue does this week's question raise?' We came to see this as an attempt to find out if we had worked out what, to use one of his frequent phrases, 'the point about it' was. We came to realise that we needed to make our deconstruction of the question clear in our introductions and then go straight on to address the point. Ajit always tried to ensure words were not wasted: he asked us to see the weekly essays as being rather akin to writing briefing papers for ministers who were under time pressure but who also needed to be able to respond to supplementary questions that might follow their initial replies.

We found Ajit to be a very enigmatic figure; we had no idea how young he was when he started his PhD. The turban and beard made it very hard to tell his age, though we also knew that he kept himself very fit. As we waited for him to arrive for supervisions, we were ready to be surprised by his choices of clothing combinations: one day he turned up with what became known as the 'traffic lights outfit': red turban, orange sweater and green trousers. His professionalism was matched by his extreme powers of concentration: he had the capacity to keep mulling over the first essay that had to be read to him while simultaneously nailing the weak points that were being read from the next one.

I was particularly fortunate to be taking my final undergraduate year at the time (1976–1977) that Ajit was writing his famous paper on de-industrialisation in the UK (Singh, 1977). It appeared in the second issue of the new *Cambridge Journal of Economics* (that Ajit had helped to set up). Ironically, almost coinciding with the paper's publication, Ajit replaced his ancient faded red Mark 1 Ford Cortina with an imported car, a new Fiat 131 Mirafiori. He explained the choice (somewhat sheepishly) in non-price terms: the rival British cars of the day do not 'go' like the one he had bought. In saying this, he was providing an important pointer to how one might understand the microeconomics of the UK's de-industrialisation problem: the Hicksian approach to consumer behaviour would not do in this context; what was needed was a characteristics-based approach that accommodated limits to substitution.

The mid-1970s were a time of intense friction between rival factions of Cambridge economists, in which Ajit was a major player – we viewed him rather as the party whip for the heterodox economists after overhearing his responses to telephone calls, or interruptions from his co-conspirators, that sometimes gave us breathing room during supervisions. Yet Ajit always showed respect for alternative approaches to economics.

Ajit's commitment to pluralistic teaching was one of the standout features of his approach. He passionately wanted his students to achieve strong understandings of the fundamental visions of rival approaches to economics on their own terms before making any judgments about which way to go personally. I think he was just as concerned as Hahn was that students should not have a simplistic 'vulgar economy' view (to use Hahn's phrase) of the dominant research programme: rather than dismissing the general equilibrium approach as a picture of market functioning, Ajit was keen to make sure we had our eyes opened to the full raft of assumptions that underpinned it and why they were necessary. This led me to an early appreciation of the role that futures markets and contingent contracts could play in economic coordination, even though I also realised that I should not presume that free markets always worked.

What Ajit did *not* do was try to sell us his favoured approach to economics. He was passionately concerned that theories should connect with real-world issues and stand up to empirical examination, he certainly seemed to be way over to the Left and yet he saw markets as having key roles to play at the local level. Being a rather enigmatic pluralist in the way that Ajit was is probably a good thing for an academic economist to be: it limits the likelihood of pandering by students and encourages them to ask themselves serious questions about economic method and construct their own ways ahead.

Alas, economics remains in need of an anthology of Ajit's papers or a book about his contributions (which have received over 11,000 hits on Google Scholar). I started compiling a volume of Ajit's collected papers after seeing him in 1990 but had to shelve the project the following year due to time pressure after moving to a chair at Lincoln University in New Zealand. My time at Lincoln provided me with a greater appreciation of Ajit's pluralistic teaching after I was introduced to the work of William G. Perry (1970), and what has become known as the 'Perry Progression' from dualistic thinking, via relativism, to a commitment to a personal, respectfully critical view of the discipline one is studying.

From Perry's standpoint, an excellent teacher is a mentor who helps students find their way along this road and does not reinforce dualistic modes of thought by adopting an aloof us/them view of the professor–student relationship. Ajit took pains to ensure we did not fail to grasp usable messages from approaches to economics that we mostly found wanting, he provided us with foundations for considering the quality of rival theories, he provided sources based on a very wide range of knowledge of the literature and he was always approachable and keen to listen to our own ideas as we formed our personal views of economics. That final point is an important one for academics who are teaching very bright students with the ability to make it all the way along the Perry Progression: we should never forget that our best undergraduates are only a few years away from potentially making significant original contributions in PhDs, so we should indicate to them that we take their own ideas seriously and do not want them merely to learn how to regurgitate ideas that have been given the apparent authority that comes with being published.

When I saw Ajit in Cambridge in 2003, it was a relief to see that he was limiting the progress of his Parkinson's disease – if anything; he even seemed to be in better shape than in 1990. Indeed, I heard tales of how his energy and relentless pace of work wore out one personal assistant after another. Evidence consistent with this came the following year when Ajit made the long journey to Australia to speak at an economic development conference. For his Queensland visit, I arranged for one of my former students, Derek Headey, to serve as Ajit's temporary assistant: Derek found it a fascinating and full-throttle experience (including arranging phone calls with the Indian prime minister). Sadly, it was the last time I saw him.

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Ajit Singh on the role of manufacturing in the national economy

In 1977, the *Cambridge Journal of Economics* published an influential article by Ajit Singh on de-industrialisation in the UK (Singh, 1977). His article foreshadowed much of the subsequent debate on this topic and is as relevant today as when it was written. It shaped my thinking on de-industrialisation. Ajit's article was inspired by events in the UK economy, in particular by the loss of over a million manufacturing jobs over the preceding few years. Manufacturing employment had also fallen in a number of other industrial economies, but the fall was much greater in the UK. Externally, the trade performance of UK manufacturing industry was deteriorating and the country's trade surplus in manufactured goods was continuing its long decline. After documenting these trends, Ajit went on to discuss their significance. Were they a cause for alarm? Or were they merely symptoms of a dynamic adjustment to new economic opportunities, in particular a shift from manufacturing to services, both internally and externally?

Ajit's approach to this topic was undogmatic. He set out a clear theoretical framework for evaluating the performance of manufacturing industry, and using this framework, he went on to examine the evidence. An important theoretical innovation of the article was the following definition of efficiency as applied to manufacturing industry:

> Therefore, given the normal levels of the other components of the balance of payments, we may define an efficient manufacturing sector as one which (currently as well as potentially) not only satisfies the demands of consumers at home, but is also able to sell enough of its products abroad to pay for the nation's import requirements. This is, however, subject to the important restriction that an 'efficient' manufacturing sector must be able to achieve these objectives at socially acceptable levels of output, employment and the exchange rate. These qualifications are essential, since otherwise, at a low enough level of real income or employment, almost any manufacturing sector might be able to meet such criteria of efficiency. (p. 128, italics in the original)

At the time Ajit was writing, the manufacturing sector clearly did not meet these criteria of efficiency. The loss of manufacturing jobs had not been fully matched by an offsetting growth in service employment, with the result that unemployment had increased. Externally, there was a large deficit on the overall balance of payments current account. Expenditure on imported oil and commodities had increased dramatically because of higher world prices, while imports of manufactured goods had risen much faster than exports. Ajit argued that this position was unsustainable. To close the payment gap, imports of manufactured goods would have to be restrained and export performance would have to be improved. Without exploring in depth how this could be done, he mentioned in passing institutional change and the imposition of restrictions on manufactured imports.

Towards the end of his article, Ajit qualified this argument by pointing to the implications of North Sea oil which was just coming on stream: the result might be a balance of payments equilibrium at full employment:

> This is, however, not a sustainable position in the long-run, since, unless the manufacturing sector improves and becomes more dynamic, it may not be able to pay for the full employment level of imports at a later stage, when the oil flow runs out. (p. 133)

In the event, North Sea oil production and falling commodity prices led to a dramatic improvement in the balance of payments within a few years of Ajit's article. As he predicted might happen, the current account went into surplus despite a deteriorating manufacturing trade performance (Figure 1). However, this surplus did not last. The situation has recently got much worse due to falling North Sea oil production and a huge fall in UK net property income from abroad. These losses have been partially offset by booming service exports, but taken as a whole the non-manufacturing side of the balance of

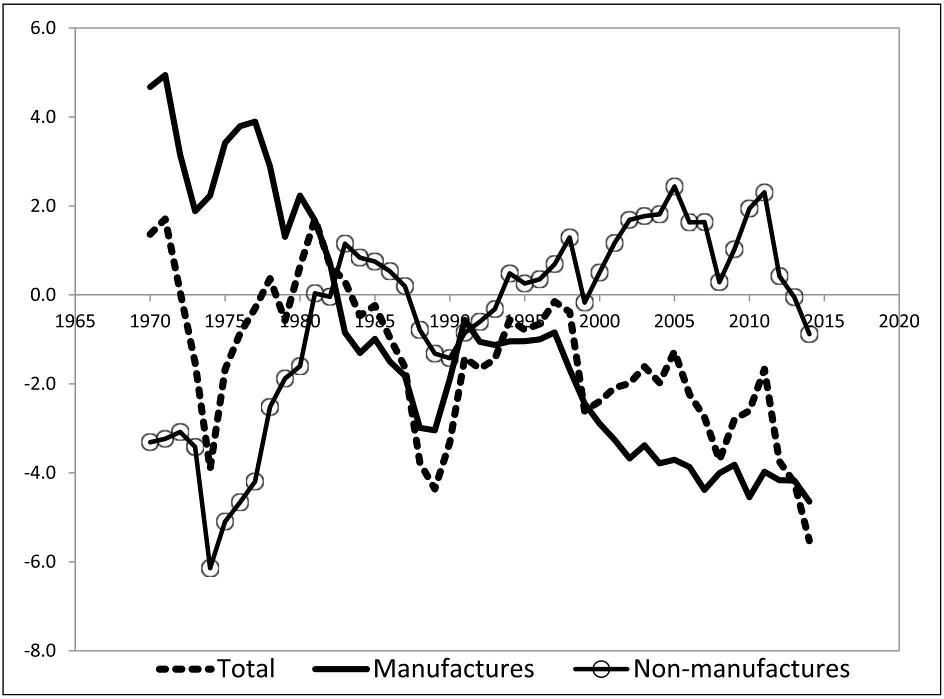

Figure 1. Main components of the UK current account percent of GDP.
Source: *UK Balance of Payments Pink Book*, ONS (Office for National Statistics).

payments is now in deficit. There is also a large deficit in manufacturing trade. The UK now has a current account deficit exceeding 5% of GDP. It is difficult to see how this unsustainable gap can be closed without a major improvement in the performance of UK manufacturing: 40 years after Ajit was writing, we are once again debating the same issues.

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Ajit Singh's contributions to the economics of development

Unlike many other Indian economists who received formal training abroad at the research degree level, none of Ajit Singh's early work was on the Indian economy or even on developing economies in general. Rather, he worked on the nature of the modern firm in advanced economies, on the nature of managerial capitalism and how competition actually works for a modern firm. His seminal work *Takeovers: Their Relevance to the Stock Market and the Theory of the Firm* (Singh, 1971) analysed what makes firms vulnerable to hostile takeovers, and the role of mergers, both as a defence mechanism and as source of higher efficiency. His results questioned the supposed disciplining effect of the stock market and showed how competition between managerial firms in the stock market setting led to much increased financial activity but had little (or maybe even negative) impact on efficiency.

This led to a series of important research studies on the relationship between financial systems and markets for corporate control on one hand and industrial policy and resulting structural outcomes on the other. Even though Ajit's interest in structural and macroeconomic issues increased over time, he will probably be remembered most for his very prolific work on corporate growth, the stock market and on how financial structures affect firms' economic efficiency. The important implications of this analysis for developing countries were firmly established by the comprehensive study on *Corporate Financial Structures in Developing Countries* (co-authored with Singh and Hamid, 1992 for the World Bank group), which was perhaps the first-ever comparative analysis of these structures in industrialising countries. In this and a series of subsequent studies, Ajit found a consistent pattern: firms in developing countries relied much more on external finance (i.e. stock issuance as compared to retained earnings) than those in developed countries. An implication of this was that firms in developing countries were likely to be even more susceptible to the vicissitudes of finance, an idea he developed in a Singh (1994) *Economic Journal* article entitled 'Financial liberalisation, stock markets and economic development'.

While the world of finance would interest him throughout his academic life, he was also influenced deeply by Cambridge macroeconomics and, in particular, by Keynes' work on stock markets and 'animal spirits' and the structural approach of Nicholas Kaldor with its primacy given to manufacturing. One of Ajit's most cited works is a 1977 paper 'UK industry and the world economy: a case of de-industrialisation?' which was a foray completely away from his then main line of research. This work, which examined changes in the manufacturing share of output and employment in terms of elasticities of demand and rates of productivity growth, argued that the declining share of manufacturing in both the UK and US was a matter of worry since underlying this was poorer growth in manufacturing productivity relative both to other countries and their own past. This led to an intense debate on why the UK manufacturing trade surplus had been shrinking and whether this was pathological or reflected normal long-run structural changes. For Ajit, however, the poorer performance of Anglo-Saxon countries raised questions regarding their financial system and industrial policy and led him to extend his main research agenda from the economics of the firm to the economics of competition and market regulation. A much later outcome of this parallel work was the influential book *Competitiveness Matters: Industry and Economic Performance in the US* (co-edited with Howes and Singh, 2000).

While these analyses were specifically related to the UK and other developed countries, they have an almost eerie contemporary relevance in a number of 'emerging markets' today. Indeed, Ajit was well aware of the threat of premature de-industrialisation in countries like India, which led him to consider the possibilities of service-led growth – he was also aware of the many pitfalls of the dominance of informal activities in the economy. This provided further impetus to his work on industrial policy, which he saw as absolutely essential to the development project.

Ajit's academic work on developing economies came after several stints as policy advisor and consultant, into which he was prodded by former students in various governments and international organisations. In the course of these, he became internationally prominent, notably during the Latin American debt crisis of the early 1980s and again after the East Asian crisis of 1997 as a critic of the Washington Consensus policies of structural adjustment and liberalisation. Although he was hugely prolific, with over 100 articles on various issues related to economic development, Ajit wrote relatively little on the social sectors, except for a few pieces for the International Labour Organisation in which he noted the difficulty of enforcing core labour standards in countries with vast informal sectors. Mostly, he concentrated on what he knew best: finance, industry and the changing nature of the world economy. Three themes kept recurring in his work: first, the role of the state in ensuring industrialisation and in guiding the process so as to reap dynamic economies of scale; second, the dangers of too much openness to foreign finance – since this can not only prove dangerous on the downside but can also, through over-valued exchange rates during upswings, discourage efficiency and cause resources to be tied up in less productive activity; third, the importance of international co-operation. Although he was a persistent critic of the Bretton Woods institutions, Ajit knew that globalisation had its strengths and was here to stay. Given that this sets limits to what national governments can do to prevent the excesses of capital, he always strived to suggest a better international consensus on development rather than push any particular national agenda.

Although he lived in Britain, Ajit was strongly drawn to his homeland and was a frequent visitor to India throughout his life, even when his valiant battle with Parkinson's disease made travel more difficult and complicated. That he was able to continue to come to India so frequently was also due in no small measure to the commitment and care of his long-time companion Jo Bradley, who also developed very close personal links with many of his friends in India over the years. With regard to Indian economic policies, Ajit shared similar positions with many of his friends who have criticised economic policy from the left, but he was much more optimistic than most of them. He was sought after by policymakers as well as academics in the country, always willing to present seminars and provide lectures for students at different universities. He agreed to take on a prestigious Chair at the Punjab University Chandigarh (his original alma mater) in 2012, but made it a point to lecture in all three major universities of Punjab as well as in Delhi and many other places across India. In many ways, despite his long sojourn in the North and his cosmopolitanism, he remained an economic nationalist at his core.

In a perceptive article on WB Reddaway's legacy in economics, Ajit argued that 'it is better to be rough and relevant than precise and irrelevant'. His own work generally evaded either trap by managing to be both precise and relevant – for that reason alone, it is likely to remain useful for policy in developing countries for some time to come.

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Ajit Singh and the political economy of development: India and China

Ajit Singh was a prolific, lifelong researcher in a wide array of issues in the political economy of development. His publications cover almost every area of the discipline, including industrial organisation, agriculture, finance, stock markets, international trade and investment, poverty and inequality, labour organisation and the role of the state in development.

His research typically combined economic theory with data analysis in order to shed new light on practical questions. He was outstandingly successful in the task of defining the research question and carefully selecting the appropriate data for analysis of the question at hand. His skill in the choice and presentation of data is an object lesson for researchers in every branch of the social sciences.

He left a legacy of a long series of outstanding, sharply focussed scholarly articles in a wide array of scholarly journals. Their hallmark was the ceaseless effort to shed light on the real-world policy choices that face governments in developing countries. Ajit was not content to sit in an ivory tower in Cambridge. He travelled the world continuously, right up to his death. He engaged with policymakers across most parts of the developing world. The clarity of his written work was matched by the sharpness of his verbal style of presenting arguments, honed in countless debates about development policy in the real world.

Ajit wrote about the political economy of development in almost every part of the world. However, a central preoccupation was the comparative development of India and China. The contrast between the development path in India and China was a continuous backdrop to his research. He felt passionately that the two countries could benefit greatly from deeper mutual engagement in their political, economic and intellectual lives. He was acutely aware of the potential that these two giant nations possess to work together, in order to re-shape the international economic and political order in the interests of the mass of the human population who, after all, live in developing countries.

He undertook path-breaking research in China in the 1970s in order to investigate first-hand the Maoist model of industrial organisation. He was fascinated by Chinese economic development after it began the long process of 'reform and opening up' following the death of Mao Zedong in 1976. His analysis of China's reforms helped to shape his penetrating analysis of what he termed 'strategic' (as opposed to 'close') integration with the global economy. His analysis of China helped also to shape his widely cited writings on the role of stock markets and banks in economic development.

Ajit was always eager to enter new fields of research and find new ways to think about old problems. Islamic finance was one of the new research areas that he entered in the last years of his life. In this new field of research, he displayed all the enthusiasm and creative energy that he had shown in his fascination for Maoist China four decades previously. As always, Ajit's purpose was to unearth the practical conclusions that could be drawn from his research for policy choices in developing countries.

He leaves behind a rich legacy of research and publications that have left an indelible imprint on almost every aspect of the political economy of development. At least as importantly, he leaves behind a large number of people in universities, research and policymaking institutions across the developing world who have benefited from his teaching and research supervision. He regarded this as an equally important task for a university scholar, alongside research, publications and policy engagement. Indeed, he continued to teach and supervise students right up to his death.

Ajit's life as a scholar, sustained throughout the long years of serious illness, is a model for everyone engaged in the political economy of development.

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In summary

The death at age 74 of Cambridge University economist Ajit Singh in June 2015 took from the world a highly productive scholar who, despite health problems that could stall the careers of less energetic scholars, has enlightened us on numerous facets of the interactions among corporate finance, industrial development and macroeconomic stability. Singh began his career with work compelling a revision of accepted views on corporate growth under the random influences associated with Gibrat's Law. He then added important contributions on the phenomenon of corporate takeovers, calling into doubt their claimed pro-efficiency effects. Turning to the financing of industrial growth in developing nations, he showed that the surprisingly heavy reliance upon external equity and bond markets, and especially upon funds supplied by overseas investors, jeopardised international stability. From this, he extended his research to broader questions of developing nations' growth strategies, questioning the emerging 'Washington consensus' that sought to minimise the erection of protective import barriers and other active government measures to encourage growth, concluding instead that in the least-developed countries 'the state, rather than the market, will have to play the central role in industrial development'. His studies of 'deindustrialisation' in Great Britain and America showed *inter alia* the critical role of imbalances between labour productivity growth and income elasticities. His live presence will be deeply missed, but his scholarly contributions continue to enhance our understanding of the economic world.

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