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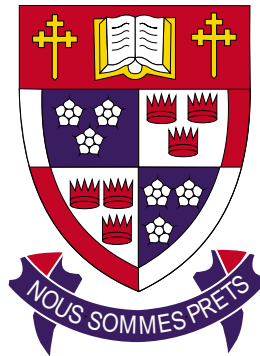
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Robert A. Mundell:
Consensual Frameworks for
Continuing Controversies

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Robert A. Mundell: Consensual frameworks for continuing controversies¹

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Biography

Robert Alexander Mundell was born in 1932 in Kingston, Ontario, Canada. He attended a one-room schoolhouse in the tiny hamlet of Latimer (now absorbed by Inverary), ten miles north of Kingston, and then high school 3000 miles west, in Maple Ridge, British Columbia. In 1953, he graduated from the University of British Columbia in Vancouver with a joint major in Economics and Slavonic Studies. His doctoral studies presaged his life-long penchant for intellectual and geographic exploration, starting with a year at the University of Washington in Seattle, followed by a year at MIT in Cambridge, Massachusetts, and then a year at the London School of Economics. At the LSE he finished his Ph.D. thesis for MIT, entitled *Essays in the Theory of International Capital Movements*. Then in 1956-57 he migrated to the University of Chicago for a final year of education as a post-doctoral fellow.²

By 1957, he was back at UBC as an instructor, married Barbara Sheff, and began to publish on international trade, including three articles from his Ph. D. thesis. Also that year at UBC, he presented for the first time his theory of optimum currency areas, one of the ideas that was to make him famous. There followed a string of employments: summer 1958 with a Royal Commission in Ottawa, 1958-59 at Stanford, 1959-61 at the Johns Hopkins Bologna Center of Advanced International Studies (which began a long love affair with Italy), 1961- 63 at the IMF, 1963-64 at McGill, and 1964-65 at the Brookings Institution. Finally in

¹ I am grateful for very helpful comments from Steve Globerman, Herbert Grubel, Steve Hanke, Peter Kennedy, Allan Sleeman, Ed Tower, Zane Spindler and Tom Willett.

² Mundell's Postdoctoral Fellowship at the University of Chicago was the same one held by William Lyon Mackenzie King (Prime Minister of Canada 1939-45) half a century before.

the fall of 1965, at the age of 32, he settled in at the University of Chicago, where he remained until 1971.

The late sixties were halcyon years at Chicago, with the Mundell/Johnson³ seminars on international economics and the Friedman seminars on monetary economics. Mundell quickly acquired a reputation as an *enfant terrible*. One of many apocryphal tales (this one told by Rudiger Dornbusch) has him asking Friedman, during a money seminar, “Milton, what makes you think *money* has anything to do with *inflation*?” But he was more than an *enfant terrible*, he was also charismatic and persuasive, not to mention editor of the *Journal of Political Economy*, by then one of the world’s top two or three economics journals.

The Chicago period ended with a return to Canada from 1971 - 74, as chairman of economics at the University of Waterloo. Mundell then moved to Columbia University in New York, where he has remained ever since. However he continues to travel the world, and since October 1999 has probably set a record for Nobel Prize winners in any discipline for the number of lectures delivered around the globe. He is a devoted family man, with three children, Paul, Bill and Robyn from his first marriage to Barbara, and a fourth, Nicholas, who arrived three years ago. He, his wife Valerie and Nicolas divide time at home between their New York apartment and the Palazzo Mundell (formerly Villa of Santa Colomba), a renaissance palace near Siena, Italy that he bought in 1969 from the Roman Catholic Church.⁴

Three consensual frameworks for three continuing controversies

Rather than attempt systematically to survey Robert Mundell’s varied, multitudinous and substantial published work, I will instead focus on three seminal contributions that are also intellectually fascinating because they continue to generate controversy and debate.

³ Harry Johnson, a famous Canadian economist, was a mentor of Mundell's during the year (1955-56) he spent in England and a life-long friend.

⁴ This architectural masterpiece was designed by Baldassari Peruzzi, Rafael's successor as architect of St. Peter's at the Vatican. The Villa was originally built for Pandolfo Petrucci, "Il Magnifico", Lord of Siena and the main model for Macchiavelli's Prince.

The first of these is his framework for defining optimal currency areas. "Seminal" is perhaps too weak a word here, since the framework literally defined a concept. Moreover the 1961 analysis has inspired generations of economists to advocate particular currency regimes. But it has left the profession as quarrelsome as ever over the merits of common currencies, fixed rates and flexible rates. And mysteriously to some, Mundell's advocacy of fixed rates and common currencies never wavers, causing many to wonder how they missed his hidden message in the 1961 article. I will devote some space to resolving this mystery.

A second seminal contribution is the "Mundell-Fleming" model. Forty years after its publication, it remains our consensual framework for analyzing open macro-economies. Like the optimal currency framework, it is not controversial *per se*: rather it serves as a paradigmatic platform for launching controversy. I will not devote space to expositing the model, but instead will illustrate its application.

A third seminal contribution evolved from the application of theoretical principles to a policy problem. The Mundellian principles for assigning policy instruments to their targets, launched from the Mundell-Fleming platform, suggested a controversial assignment of monetary policy to inflation and fiscal policy to real growth. When it was finally applied in the early 1980s, the assignment proved prophetically successful. The fiscal side of that assignment came to be called the "supply-side revolution".

The Royal Swedish Academy of Sciences justified its 1999 choice for the Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel as follows:

Robert Mundell has established the foundation for the theory which still dominates in practical considerations of monetary and fiscal policy in open economies. His work on monetary dynamics and optimum currency areas has inspired generations of researchers. Although dating back several decades, Mundell's contributions remain outstanding and constitute the core of teaching in international macroeconomics.

Mundell's research has had such far-reaching and lasting impact because it combines formal – but still accessible – analysis, intuitive interpretations, and results with immediate policy implications. Above all,

Mundell chose his problems with uncommon – almost prophetic – accuracy in terms of predicting the future development of international monetary arrangements and capital markets. Mundell’s contributions serve as a superb reminder of the significance of basic research. At a given point in time, academic achievements might appear rather esoteric; not long afterwards, they may take on great practical importance. (Press release, October 13, 1999)

Two years earlier, the American Economics Association was more specific. In 1997, the AEA made Mundell a Distinguished Fellow because of his seminal contributions to the theory of optimum currency areas, the “Mundell-Fleming” framework for analyzing open macro-economies, and the problem of “assigning” policy instruments to policy targets. The AEA also emphasized his contributions to the theory of international trade.

In a review of Mundell’s work written after the Nobel Prize was awarded, Dominick Salvatore characterized his three enduring contributions as “Three Brilliant Ideas, One Nobel”, suggesting that any one of them would have justified the Prize (Salvatore, 2000). Salvatore’s list is the same as the AEA’s except that “supply side economics” substitutes for “policy assignment”. As already suggested, the former can be considered an application of the latter.

Of course Mundell’s seminal and lasting contributions are by no means confined to these three. His earliest enduring contributions were to the pure theory of international trade, beginning in 1957 and carrying through to 1993. Much of his early thinking on both trade and finance is consolidated in Mundell (1968), which became the leading textbook for graduate students of its time, and several of his early contributions to monetary theory are captured in a second book, Mundell (1971). There is a continuous flow of important papers on the balance of payments between 1968 and 1997, on the international monetary system (1972 - 1995), and on monetary theory and the history of money (1960 - 1999). And throughout his career there are dozens of policy papers and depositions to governments.

But the “Three Brilliant Ideas” were not only seminal, they are as topical today as they were 40 years ago. And not just topical, frameworks for controversy. I will start with optimum currency areas.

Optimum currency areas

Mundell (1961a) coined the phrase “optimum currency areas”, and laid out a framework that has been used ever since to analyze choice between currency regimes. But like the Bible or the Koran, it has been used by particular acolytes to justify just about every regime available to the modern world. Its policy implications are, to put it mildly, controversial. Mundell himself holds firm convictions about appropriate exchange rate regimes, with a strong preference for hard fixes or common currencies. Yet ironically, many other eminent economists, typically drawing from the 1961 framework, hold just as strong preferences for flexible rates.⁵ A third, smaller but similarly convinced subset of economists argues for adjustable pegs and similar intermediate arrangements.

One key to the continuing controversy is the differing emphases placed on short and long run mechanisms for adjusting a country’s balance of trade. Since prices and wages are slow to adjust, many economists advocate flexible exchange rates as an alternative mechanism. Nominal exchange rate adjustment promises to by-pass the painful unemployment and real income adjustment that substitutes for price and wage adjustment in the short run. But as proponents of fixed rates point out, in the long run prices and wages *will* adjust, and furthermore they *should be encouraged* to adjust via the discipline of a fixed external standard. This argument for “endogenizing” the long run was strengthened in the late 1960s by the evolution of a professional consensus around a theory of the long run Phillips curve which suggests that nominal or “monetary” shocks are inevitably neutral in the long run.

It is important to understand Mundell's advocacy of hard fixes and common currencies in the larger context of the profession's resurrection of classical long run analysis and corresponding rejection of the *ad hoc*, short term aspects of Keynesianism. Part of the “by-pass” of painful real adjustment promised by advocates of flexible exchange rates relies on money illusion: the illusion that after exchange rate depreciation,

⁵ Most of the virulent opposition to the euro in the early to mid-1990s was based on “principles” drawn from the 1961 framework, emphasizing in particular low intra-European labor mobility.

real wages have been maintained despite rising prices for imports, and ultimately other goods as well. Hence the argument for relying on nominal exchange rate adjustment could be termed "Keynesian". In fact Mundell, in a typically wry twist of the knife, sometimes points out that even Milton Friedman's advocacy of flexible rates rests on an assumption that economic actors (like wage-earners) indulge in recidivist, Keynesian behavior. This would suggest that, in general, advocates of flexible rates are caught in a Keynesian time warp out of sync with both modern macroeconomic theory and the modern world's practical ability to adjust quickly, prompted by "rational expectations".

A second key to Mundell's position is the role of capital flows. His vastly influential 1961 optimal currency analysis focused on current account – trade balance – factors, but his own thinking since at least 1970 has focused on capital flows (see Mundell 1973a, b, from the proceedings of a 1970 conference in Madrid). Unlike Milton Friedman, he believes that with flexible rates, capital flows can be excessive and even destabilizing. Friedman's thinking on this point is very linear: speculators cannot systematically make profits unless they buy low and sell high; hence capital movements must reduce exchange rate volatility, not the reverse. Mundell thinks differently. Repeatedly he argues that today's short-term capital flows – “hot money” flows whose daily gross volumes greatly exceed their net volumes -- are largely a response to exchange rate uncertainty: not necessarily a response to market-driven flexible rates *per se*, but to flexible rates in conjunction with uncertainty about monetary policy, or perhaps to “pegged” rates that might become unpegged. He believes that this wasteful churning of money would largely cease were exchange rates firmly stabilized, as it has within “euroland” since the European Monetary System locked in exchange rates during the 1990s.

But Mundell also suggests, or at least implies, that the huge swings in dollar-yen and dollar-Deutschmark (now dollar-euro) exchange rates since the collapse of Bretton Woods in 1973 have been *caused* by capital flows. What else could cause them, especially in the 1990s when inflation rates in all three currency blocks have been similarly low and stable? Then do volatile exchange rates prompt volatile capital flows, or the other way around? The answer is that both respond to a third variable: expectations. In fact, expectations play the key role. If expectations of the nominal value of the exchange rate that will equilibrate external

payments in the long-run are continuously changing, capital flows are likely to be volatile, and so also are exchange rates. But if the nominal exchange rate is fixed unambiguously, or better still eliminated via a common currency, expectations about nominal rates will be stabilized, as will speculative capital flows. Not only will ephemeral, resource-misallocating exchange rate changes be by-gones, so too will the wasteful capital flows that accompany them. To the objection that non-ephemeral, “fundamental” real exchange rate movements will nevertheless be required in a world with differential productivity trends, Mundell's answer is that the necessary price and wage movements will be accelerated and in effect endogenized, since short and long run expectations are merged by the certainty of a common currency. So too will cross-border factor flows accelerate – flows of labor in particular – and so too will industrial and institutional reform.

Perhaps the appropriate distinction between Mundell’s 1961 analytical framework and his advocacy of common currencies is a distinction between Mundell the pure theorist and Mundell the visionary. In fact the word “distinction” may put too fine a point on it: “marriage” might be better. For if anything characterizes the span of his work over a lifetime, it is an inextricable marriage between theory and policy. Few theorists dare draw out clear policy implications. Fewer still dare to predict. Mundell has been living dangerously in both respects for at least 30 years. Remarkably, both his policy advocacy and his crystal ball have served to enhance rather than diminish his professional reputation, particularly beyond academia. For his advocacy of a European common currency for Europe he is often called “Father of the Euro”, and for his advocacy of tax cuts, "Godfather of Supply Side Economics".

The Mundell-Fleming model, instrument assignment and supply side economics

In 1952, Jan Tinbergen, who in 1969 with Ragnar Frisch was the first Nobel prize winner for economics, formulated the rudiments of what is now the theory of economic policy. Tinbergen’s core principle was that to realize x targets, a policy-maker must deploy at least x instruments. Eight years later, Mundell substantially extended this principle and ultimately launched a revolution in real-world economic policy with ramifications that are hard to exaggerate. Mundell (1960) addressed

the appropriate *assignment* of instruments to targets. His specific application was that under flexible exchange rates, interest rates should be assigned to achieving external balance and price level adjustments to achieving internal balance. His methodological innovation was to introduce dynamic considerations and take into account capital movements, asking which instrument-assignment was likelier to produce stable macroeconomic equilibrium. He called this the "principle of effective market classification".

Two years later, he applied this principle to fixed exchange rates. Four related articles, Mundell (1961b, 1961c, 1962, 1963) lay out the most seminal of all his theoretical work, the "Mundell-Fleming"⁶ model that clearly distinguishes between the effects of monetary and fiscal policies under fixed and flexible exchange rates. Then in the early 1970s, Mundell utterly confounded conventional wisdom by advocating the assignment of monetary policy to inflation and fiscal policy to real growth. This sowed the seeds for the American "supply side revolution" that took root a decade later and has borne fruit ever since.

In the early 1970s, the U.S. was suffering from incipient inflation and slow growth. After the oil price hikes of 1973-74, the U.S., along with most rich countries, sank into a quagmire of persistent inflation and recession -- so-called "stagflation". One possible instrument-assignment, advocated by liberal Keynesians like James Tobin, was government spending (to stimulate aggregate demand), funded and reinforced by easy money. A second, advocated by fiscal conservatives, was balanced budgets and tight money (to fight inflation). But Mundell advocated a policy mix that was decried by liberals and conservatives alike: tax-reduction to target real supply, and tight money to target nominal demand.

The novel part of the Mundellian policy mix was not targeting inflation with tight money, since this had already been advocated for decades, notably by Milton Friedman. Moreover the Phillips tradeoff between inflation and output was already in disrepute due to the new

⁶ Marcus Fleming was a distinguished British economist and contemporary of Mundell's at the IMF, later Deputy Director of the Research Department. His analysis was sufficiently complementary to Mundell's to prompt Rudiger Dornbusch to coin the enduring epithet, "Mundell-Fleming model". See J. M. Fleming (1992) "Domestic Financial Policies under Fixed and under Floating Exchange Rates" *IMF Staff Papers* 9, 369-379.

Phelps/Friedman theory of a “Phillips” curve that is vertical in the long run. Nevertheless it is probably fair to claim that Mundell’s advocacy of tight money provided moral succor to Paul Volcker, a close friend of Mundell’s, who as Governor of the Federal Reserve System doggedly wrung inflation out of the U.S. economy between 1980 and 1982.⁷

The novel part of the Mundellian mix was targeting real output via tax reduction, and, by extension, via deregulation. The behavioral link ran through incentives to save and work, and improved factor allocation. A fabled cabal – Mundell, Jack Kemp (Congressman from upstate New York and former star quarterback of the Buffalo Bills), Jude Wanniski (editorial writer for the *Wall Street Journal*), and Arthur Laffer (Mundell’s ex-student from Chicago) – met frequently during the mid-1970s in New York, usually at a Wall Street watering hole called Michael One. According to legend, the famous “Laffer Curve” (whereby a reduction in tax rates, above a certain level, actually increases tax revenue) was invented on cocktail napkins.

Serendipitously, Mundell’s influence outside academia, not least among readers of the *Wall Street Journal*, had been enhanced in the early 1970s by a series of spectacular forecasts that built him the reputation of a gifted, almost magical, economic seer. Mundell predicted, in the order that they occurred, the collapse of the Bretton Woods System, a spiraling gold price, a sharp hike in oil prices, and the inflation and output stagnation that ensued. Wall Street respected Mundell and the macroeconomic merits of tax reduction soon found their way onto the editorial page of the *Wall Street Journal*. Jude Wanniski was inspired to write a best-selling book, *The Way the World Works* (Basic Books, 1978).

Ultimately, the supply-side message rationalized Reagan’s tax cuts, and industrial deregulation, during the 1980s. And as predicted by the Mundell-Fleming model, tax cuts and tight money led, in the short run, to higher budget deficits, higher interest rates, capital inflows, a rising dollar and a deteriorating current account. But the deficits have turned into surpluses, interest rates have plummeted, and capital inflows now feed the private sector, not the US government. And except for a brief dip in 1990 – 91, the US economy has seen a sustained boom from 1982

⁷ However Mundell points out that Volcker’s dedication to tight money derived at first from the fear that Reagan’s tax cuts would fuel inflation, rather than from an acceptance of the long run independence of real supply from nominal demand.

through to the turn of the century, the longest in industrialized history. Such is the legacy of a Canadian economist to America, and indeed to the world at large.

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