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Assaf Razin: Biographical Notes

I am the oldest of three children of my father, Mordechai ("Mussia") Berezin, and my mother Dora Leibovitch. I spent the first 24 years of my life in my birthplace, Kibbutz Shamir; a rural place in the northeastern part of Israel. These personal biographical notes cover my background from the young age at the kibbutz, through my graduate education at the University of Chicago, the first academic jobs, and the major turning points in my adult life. My professional life as an economist is covered in detail in my vitae (see <http://www.tau.ac.il/~razin>). Against expectations that economists' CVs will slip into mathematical formulae by page five, this 50 page economist's bio does not slip into mathematical expressions at all.

FAMILY BACKGROUND

I was born and bred in Kibbutz Shamir, in what was then the British Mandate Palestine. It was established in 1939 by a small group of mainly [Romanian Jewish](#) immigrants to [Palestine](#), in a temporary place near Kfar Atta in the Haifa region. In 1944 it was relocated to a permanent place on the slopes of the Golan Heights, which tower 3,000 feet above the Upper Galilee. Indeed, before the border shifted east as a result of the six-day war in 1967, Kibbutz Shamir was at the most eastern border settlement in Israel. The Kibbutz system, though it spans a wide geographical area along the borders of Israel, has always been a tiny minority of Israel's population. A relatively rare phenomenon can be observed from the kibbutz – a **'sunrise in the west'**. The kibbutz is nested in the steeply-rising western slopes of the Golan. When the sun rises, its first rays at daybreak illuminate the peaks of the Ramim mountain range across the valley to the west of Shamir. As the sun climbs progressively higher the more of Ramim is bathed in sunshine which can then be observed progressing from west to east, down the slopes of Ramim, across the valley and up the slopes of the Golan before reaching the kibbutz.

((The kibbutz (Hebrew word for "communal settlement") is a unique rural community; the fulfillment of Karl Marx's idea "from each according to his ability, to each according to his needs". The first kibbutzim (plural of 'kibbutz') were founded some 40 years before the establishment of the State of Israel (1948). Their founders were young Jewish pioneers, mainly from Eastern Europe, who came not only to reclaim the soil of their ancient homeland (as is Zionism), but also to forge a new way of life. Today there are some 270 kibbutzim, with memberships ranging from 40 to more than 1,000, scattered throughout the country, mostly in the periphery. The proportion of the kibbutz population within the Israeli society declined from 6.5% in the 1948 census to 3.3% in 1972. At the end of the year 2002 the kibbutz population numbered 115,600, living in 268 kibbutzim, and it constituted 2.1% of the total Jewish population in the country.)

The kibbutz movement is almost a century old. In a society in which there is no effective central government, as was essentially the situation of the Jewish community in Palestine until Israel gained statehood in 1948 (and even afterwards, in frontier regions exposed to Arab terrorism), smaller groups will form for self-defense and the provision of other public goods, such as social insurance. Collective ownership and wage equality are ways of protecting each member of the collective from economic and other hardships; "from each according to his ability, to each according to his needs"--the communist slogan implemented successfully in the classic kibbutz--is then a method of social insurance. As Judge Richard Posner notes, "In trying to weaken the bond between parents and children, the founders of the kibbutz movement, echoing Plato, who in his sketch of an ideal communist state in the *Republic* had advocated the communal rearing of children, were acknowledging that parents' instinctual desire to advance their children was inconsistent with communal equality." The proportion of the kibbutz population within the Israeli society declined from 6.5% in the 1948 census to 3.3% in 1972. At the end of the year 2002 the kibbutz population numbered 115,600, living in 268 kibbutzim, and it constituted 2.1% of the total Jewish population in the country.)

I was 7 in 1948, the year of the Arab-Israeli war that followed Israel's establishment as a state. The Kibbutz was then at the forefront of battles for the existence of the finger-of-Galilee region as integral part of the new Jewish state. All the women and children of the Kibbutz were evacuated into the relatively safe place of Haifa. We returned to the Kibbutz at the end of the war.

(On May 15, 1948, one day after the creation of the State of Israel, the Arab armies of Egypt, Syria, Jordan, Iraq, Saudi Arabia and Lebanon invaded the new Jewish state. The war was marked by long periods of fighting and temporary cease-fires. Finally, fighting officially ended in January 1949, at which time Israel held the 5,600 square miles allotted to it by the UN partition plan plus an addition 2,500 square miles. Jordan held East Jerusalem and the West Bank, and Egypt held the Gaza Strip. From January to July 1949, armistice agreements were signed with Egypt, Lebanon, Jordan and Syria based on some minor variations of the frontlines as they were at the end of the fighting.)

My father, Mordechai ("Mussia") Berezin was born during the beginning phase of World War I in Kishenev, the East European city in what is now the Republic of Moldova.

(In the then Czarist Russian city, in April 1903, a three-day pogrom led to forty seven Jewish deaths—men, women and children— and more than seven hundred houses had been looted. In the same city in October 1905, nineteen Jews were killed. Jews around the world were outraged by the continuing attacks. After these pogroms at Kishenev, the Hebrew Writers Union of Odessa sent the 30-year-old poet, Hayyim Nachman Bialik, who became later Palestine Israel's national poet, to collect eyewitness accounts from the survivors. Bialik then wrote the famous poem “City of Slaughter”).

My father made *alyah* (“to ascend” in Hebrew; this is how we describe in Israel the immigration by Jews from the Diaspora) in 1937, before World War Two. In the 1950s it became fashionable to switch from Diaspora-type to Hebrew-type last names. Our family name became Razin (“secrets” in Hebrew; in the Hebrew alphabet it is as close as you can get to the original European name Berezin).

The name, Berezin, perhaps indicating our ethnic origin, is derived from a Russian word *Berioza*, a white-trunk tree. Leo Tolstoy’s “War and Peace” describes an historical site, *Berezina*, from which, perhaps, my father’s last name Berezin has been derived. *Berezina* became famous when Napoleon was driven back by the Russian Army. The French army melted away at the uniform rate of a mathematical progression; and that crossing of the *Berezina* about which so much has been written was only one intermediate stage in its destruction, and not at all the decisive episode of the campaign. If so much has been and still is written about the *Berezina*, on the French side this is only because at the broken bridge across that river the calamities their army had been previously enduring were suddenly concentrated at one moment into a tragic spectacle that remained in every memory, and on the Russian side merely because in Petersburg— far from the seat of war— a plan had been devised to catch Napoleon in a strategic trap at the *Berezina* River. Everyone assured himself that all would happen according to plan, and therefore insisted that it was just the crossing of the *Berezina* that destroyed the French army. In reality the results of the crossing were much less disastrous to the French— in guns and men lost— than *Krasnoe* had been, as the figures show. The sole importance of the crossing of the *Berezina* lies in the fact that it plainly and indubitably proved the fallacy of all the plans for cutting off the enemy’s retreat and the soundness of the only possible line of action— the one Kutuzov and the general mass of the army demanded— namely, simply to follow the enemy up. The French crowd fled at a continually increasing speed and all its energy was directed to reaching its goal. It fled like a wounded animal and it was impossible to block its path. This was shown not so much by the arrangements it made for crossing as by what took place at the bridges. When the bridges broke down, unarmed soldiers, people from Moscow and women with children who were with the French transport, all— carried on by *vis inertiae*— pressed forward into boats and into the ice-covered water and did not, surrender.

My father was one of the founding members of Kibbutz Shamir, and he lived there for the rest of his life. Soon after his arrival in Palestine, World War Two had erupted. The Jewish community in Palestine established a unit, the “Jewish Brigade”, to fight the Nazis. (Winston Churchill formed a separate Jewish Fighting Force, which would fly the Jewish national flag, within the British army. The Jewish Brigade Group of the British army, which fought under the Zionist flag, was formally established in September 1944. It included more than 5,000 Jewish volunteers from Palestine organized into three infantry battalions and several supporting units.). Because the Jewish community in Palestine had no full-fledged draft, the Jewish Brigade was based entirely on volunteers. But the Kibbutz system was based more on putting moral suasion on its members to volunteer; rather than letting the members to exercise their own individual choice. The Kibbutz chose two of its members “to volunteer” to the military service, and one of these happened to be my father. Being extremely loyal, he accepted the collective decision and loyally went on to serve the 4-5 year period: first in North Africa (where General **Montgomery fought the strong German army under Rommel**), and then in Italy and Germany. I can still read the postcards he sent from training in Mount Carmel, Cairo, Italy, and Germany. The Jewish Brigade entered Europe through Italy, where the famous battle in Monte Cassino was fought.

(There were four separate and distinct ‘battles’ of Monte Cassino during late 1943 and early 1944, each one being immensely costly in Allied lives. In their turn, Americans, Indians, British and Poles reached the summit of Monte Casino but found it impossible to retain a hold for long. The destruction wrought of the world-famous monastery on the summit of the mountain was but part of the damage that occurred during this period. The campaign to take Monte Cassino was one of the most dramatic of the Italian campaign.)

This is how Vikram Seth, the author of *Two Lives*, describes the battle, where is uncle, Shanti uncle, lost his arm.” Two major roads lead northwards from Naples to Rome: one along the coast, the other in the road skirts the towering mountain of Monte Cassino and then moves towards Rome along the Liri valley. Four attempts were made between January and May 1944 to advance past Cassino into the Liri valley. The first battle was a disaster. The Germans brought in reinforcements from north of Rome to contain the beachhead. Every move along a “Snakehead Ridge”, as the American dubbed it, could be viewed and countered from the surrounding highest, all of which were in German hands. Two nights later, the New Zealanders at great cost captured the railway station at Cassino—a position that would have helped the British army make a break past Cassino into the Liri valley. But the battalion was forced by German tanks to relinquish their gains the following day.

In February it was decided to attack Monte Cassino the third time. Cadstle Hill and the first bend were taken by the New Zealanders. Uncle Shanti was in Cassino area for several months.”)

Amazingly the letters he sent from the front were written in almost perfect Hebrew, despite his being “Oleh Hadash” (new migrant). This was due to the Hebrew High School he attended in the Diaspora. During the war he managed somehow to do a lot of serious reading on his own. He was fascinated by ancient history. This helped him later to put himself on a successful track and became a self-taught biblical scholar. With the end of the war, and the smashing defeat of the Germans, he returned to the Kibbutz. I still remember the enthusiastic reception given to him when he returned by the members of the Kibbutz and the big celebration of the victory over the Nazis. The Kibbutz members recognized his special intellectual

talents and the general assembly assigned him to be the first high school teacher of the Kibbutz. For this purpose he studied in the Kibbutz Teachers' College in Tel Aviv ("Seminar Hakibutzim"). But unlike a University college the seminary had no exams, and granted no diploma. A diploma was not needed to work as a teacher in the Kibbutz. Studying in the Faculty of Humanities in the Hebrew University was not an option for him because the Hebrew University did not subscribe to the Marxian dogma, which had dominated the intellectual intercourse among the Kibbutz members. Possibly this also helped the Kibbutz to limit the outside options of its members, so as to prevent desertion. There were very insightful broad thinking teachers in the "Seminar Hakibutzim". Because at this time in Israel there were very limited number of academic positions were available in the only one university in the country. On the supply side though they were drawing from a pool of many highly educated and talented people. The Hebrew University, the only university in Israel at the time, had only a very small faculty; only of a few hundred academic staff (compared to 10,000 today). It was also established as an institution of higher learning and research after the German university model: a few permanent professorship positions and teaching assistants with only temporary positions. Many bright, highly educated historians, literature scholars, etc., had no other choice but to pursue semi-academic careers. By default, they had to choose teaching careers in high schools and seminaries. These institutions obviously benefited from having a select group of teachers of a high caliber. For example, a teacher in Seminar Hakibutzim, who had a great influence on my father, was Zvi Yavetz. Zvi, the internationally renowned historian of the Roman period, was a Hebrew University Ph.D. student at the time. (In 1956 he received a Ph.D. Degree in History, Classics and Sociology, from the Hebrew University; and moved into the academia.)

Thinking about the poor education I received in my youth, big drawback of the Kibbutz educational system was that they had no exam to motivate their pupils. When it comes to educational systems, the world seems keen to adopt ideas developed by British experts. It was the British headmaster of the famous Eton who largely created Germany's postwar educational system and the international Baccalaureate. The program designed for 16-18 years old, has done particularly well in the US. It allows schools to opt out of the national qualification system. University admissions bodies create special tariffs whereby the international baccalaureate is given a preferential treatment. This gives an added incentive to get into such program in the first place. In the Kibbutz system there were no exams at all; surely not national or international certification exams.

The historical aspects of the Bible became central to my father's scholarship. He viewed the Bible as a genuine record of ancient Jewish history, in addition to its unique religious value. The best way I can describe my father is as a self-taught biblical scholar with a Marxist orientation. He published a scholarly book (joint with his colleague and friend Shunia Ben-Dor) on the origin of ancient kingdom of Israel (major sources were **the book of Joshua** and the Book of Judges in the Bible. The book of Joshua presents several internally inconsistent scenarios which describe the entry of Israel into Canaan, and it also conflicts with the Book of Judges and other books of the Bible.

*(In a recent book by Finkelstein and Silverman, *The Bible Unearthed*, they write: “By the late eighteenth century and even more so in the nineteenth, many critical biblical scholars had begun to doubt that Moses had any hand in the writing of the Bible whatsoever; they had come to believe that the Bible was the work of later writers exclusively. These scholars pointed to what appeared to be different versions of the same stories within the books of the Pentateuch (The “Chumash”), suggesting that the biblical text was the product of several recognizable hands. A careful reading of the book of Genesis, for example, revealed two conflicting versions of the creation (1:1-2:3 and 2:4-25), two quite different genealogies of Adam's offspring (4:17-26 and 5:1-28), and two spliced and rearranged flood stories (6:5-9:17). In addition, there were dozens more doublets and sometimes even triplets of the same events in the narratives of the wanderings of the patriarchs, the Exodus from Egypt, and the giving of the Law. The distinctive uses of geographical terminology and religious symbols and the roles played by the various tribes in the two sources convinced scholars that the J text was written in Jerusalem and represented the perspective of the united monarchy or the kingdom of Judah, presumably at or soon after the time of King Solomon (C. 970-930 BCE). Likewise, the E text seemed to have been written in the north and represented the perspective of the kingdom of Israel, and would have been composed during the independent life of that kingdom (C. 930-720 BCE). The book of Deuteronomy, in its distinctive message and style, seemed to be an independent document, "D." And among the sections of the Pentateuch that could not be ascribed to J, E, or D were a large number of passages dealing with ritual matters. In time, these came to be considered part of a long treatise called "P," or the Priestly source, which displayed a special interest in purity, cult, and the laws of sacrifice.)*

Biblical scholarship is indeed intellectually an exciting stuff. The inspiration for my father's the book came from the Marxist classic “the **Origin of the Family, Private Property and the State**” (circa 1884), written by Friedrich Engels. (Friedrich Engels, the son of a successful German industrialist, was born in Barmen in 1820. As a young man his father sent him to Manchester (England) to help manage his cotton factory. Engels was shocked by the poverty in the city and began writing

an account that was published as [Condition of the Working Classes in England](#) (1844). In 1844 Engels began contributing to a radical journal called [Franco-German Annals](#) that was being edited by Karl Marx in Paris. Later that year Engels met Marx and the two men became close friends. Thereafter, Marx and Engels worked as a team. Friedrich Engels (in [The Origin of the Family](#), 1884), was fascinated by **primitive communism**, a term usually associated with Karl [Marx](#), referring to the collective right to basic resources, partner sharing, egalitarianism in social relationships, and absence of authoritarian rule and hierarchy that is supposed to have preceded social stratification in human history. Both Marx and Engels were heavily influenced by Lewis Henry [Morgan's](#) speculative evolutionary history. Lewis Henry Morgan—dubbed "the father of American anthropology"—in his 1877 cultural evolution masterpiece *Ancient Society*, flashing out the role of inheritance and shared partners in the U.S.-Native American tribes.)

At his middle age he visited London, where my son and my grandchildren live now. London – where Marx, a century and a half ago, prepared to write *Capital*; where Lenin, some 100 years ago, engineered a split in his political party from which the Bolsheviki – meaning “the majority” – were born. Indeed, my father went to visit Karl Marx grave in high gate neighborhood during this visit. London has been for two centuries also the home of finance and until 50 years ago, of imperialism. It was only at the relatively old age of 55, when his adherence to the Marxist dogma was significantly weakened, that my father embarked on formal studies in the Hebrew University. At this stage the Kibbutz was also less dogmatic and more tolerant. The University awarded him a Ph.D. in biblical history (Professor Abraham Malamat, the renowned biblical scholar, was his adviser; Sara Yefet (Israel prize winner in biblical scholarship was his classmate), but this event came only after I had received my own Ph.D. from the University of Chicago. It is only the fact that he was a member of the Kibbutz all his life, whereas I left the Kibbutz at a still productive age, which can explain such a distortion of the natural chronology of events between father and son.

My mother Dora was born in Bivoular, a Romanian town, near the provincial capital city of Iasi, also at the beginning phase of WWI.

[Iasi is a city located in north Romania, in southern Bukovina. This country was the easternmost crown land of the Austrian Empire. Iasi, before WWII, consisted of a hundred thousand individuals, half of which were Jews.

[The Iasi pogrom is the most infamous in the history of the Romanian Holocaust. On June 25, 1941 (three days after the outbreak of the war) rumors circulated that Soviet parachutists landed near the city of Iasi. The army ordered a search of all Jewish homes. Many believed that Jews in Iasi were "enemy allies" of the USSR, "Bolshevik agents, and "parasites on the Romanian nation."].

My mother's maiden name is Leibovitch. She arrived in the Kibbutz just a few months after my father. My father, who knew Hebrew already from the Jewish high school in Kishenev became my mother's Hebrew teacher. My mother was the one who had to take sole responsibility of us, the children, while my father was absent for relatively long periods. She did not have the intellectual curiosity my father had. But she was an integral part of a household, not very typical in the Kibbutz society that educated its children under the banner that investment in schooling is of crucial importance. She also kept the family well tied together after my father died at the young age of 57. (She was all alone at her small and austere apartment after my father died when in June 13, 1974 when 4 PLO terrorists sneaked through the Lebanon-Israel border and invaded Kibbutz Shamir. They ambushed and killed 3 Kibbutz members who were working at the working honey factory in the outskirts of the Kibbutz. The members of the Kibbutz were having breakfast at the communal dining hall at the time. They seized their guns and ran in the direction from where gun fire was heard. In the gun battle that followed all the terrorists were killed. A self-defense courageous act, with no help from the Israeli army. I imagine how terrified was my mother. But she did stay in the Kibbutz in the remaining years of her life.)

She definitely was the Matriarch of our family. She was extremely proud of the skills that her own children acquired much through investment in human capital, while the average child of the Kibbutz was less educated.

I have never known my grandparents. My parental grandparents (Meir and Fruma Berezin) and my maternal grandparents (Leon and Ada Leibovitch) did not follow my parents in the migration to the (then) Palestine. My maternal grandparents, who lived in Iasi, Romania, under the Antonescu Puppets regime during the World War II, did not survive the war period. First there was a pogrom in Iasi, in June 1941. Then forced labor was done in and out of the city. The hunger and sub-human conditions that were widespread throughout the region, were plausibly the cause of their death. My parental grandparents, who lived in the city of Kishenev

by the river Dniester, did not survive the war period either. The 1939 Molotov-Ribbentrop Pact assigned this region to the Soviet Union. In May 1941 Heidrich, following Hitler's plan to eliminate the Jews, established the units of the Einsatzgruppen, to accompany the German army in Operation Barbarossa into the Soviet Union. Their specific mission was to execute not only members of the Jewish community, but also communist leaders. Kishenev, like the rest of the region became a killing field, as Poland before it.

I do not know how precisely my grandparents' life ended, because my parents lost all communication with them during the war.

My younger brother Ehud (who is the Dean of Faculty of Medicine at the Hebrew University in Jerusalem) inherited my father's broad intellectual curiosity. My younger sister Hava (who is a fertility nurse-specialist in Hadassa Medical Center in Mount Scopus) inherited my father's good nature and my mother's legacy of how to raise a well educated family. All of us inherited the "optimism gene" from my mother. We tend not to complain about bad luck and always look forward with an optimistic sense of meeting new challenges ahead. I liked playing basketball, listening to music--Beatles' music, 1950s, 1960s and 1970s pop music, as well as Classical music, especially, Beethoven's Symphonies. (At the funeral of my son, Ofair, we played the third symphony, The Heroica). A member of Kibbutz Shamir, Yahali Wagman, a musical prodigy as a teenager, and a graduate of The Juilliard School of music, motivated us to listen to classical music. I learned to play the clarinet and became fascinated with Mozart's famous concerto for clarinet ([Wolfgang Amadeus Mozart - Clarinet Concerto in A Major](#)). In our class we were just 10 children with very distinct Israeli names: Ziva, Uzi, Ygal, Hillel, Amos, Oded, Amnon, Amit, Yuval, and myself, named Assaf, the youngest. At the time the name Assaf (taken from the book of Psalms) was quite rare. (IDF Major-General Assaf Simchoni (1922-1956) who commanded the Sinai Campaign (1956), and was killed in an airplane accident at the end of the war, was another person with a same. A bit older than me and also born in a Kibbutz, Geva.)

People were not used to such a name. Some pronounced it as Esav, (**Esau**, [Standard Hebrew Esav](#), is the son of [Isaac](#) and [Rebekah](#) and the older twin brother of [Jacob](#) in the [biblical Book of Genesis](#), who, in the [Torah](#), was tricked by Jacob into giving up his birthright (leadership of Israel) for a "[mess of pottage](#)" (meal of [lentils](#)). ([Genesis 25:29-34](#).)

I must admit I had many moments of embarrassment because of the (then) unusual name. Now days, this name is one of the most popular names in Israel.

Read Gabriel Garcia Marquez' **One Hundred Years of Solitude**. This is a story of one hundred years in the life of Macondo, a mythical Colombian town, a fresh new place isolated from civilization, and its inhabitants - the story of the town's birth, how it developed a lively community, and how tragically it has reached its end. It was founded by a team which included the married couple Jose-Arcadio Buendia and his wife Ursula Igueren. They started a dynasty that lasted a few generations. Macondo was deserted after the last offspring, an infant, was left alone and died. The experience of growing up

in a remote isolated new establishment, and be a part of an emerging small community, where its leaders trying to establish new community rules and norms of behavior, re-inventing methods of education, developing health care and social organization, is what I feel as something very similar to my childhood's experience in Kibbutz Shamir. In both the Macondo and Kibbutz Shamir stories, the children were part of a big social experiment. Luckily, in sharp contrast to the sorry end of Macondo after 100 years of existence, the community of Kibbutz Shamir was able to fully integrate itself, absorbing the center-core of the country in social and cultural features. The kibbutz was able to modernize its social organization institutions and economic well being. Indeed, 60 years after its birth, the Kibbutz is a great success story. But there are plenty of weakness that I had experience with growing up there.

When many years later I became a Professor of economics, in my book *Population Economics*, I was able to identify key demographics economics issues for different societies, including those that characterize the kibbutz. My analytical thoughts about the difference among various ways of social organization, were, as it turned out, strikingly fit the fertility- education choices prevailing in the Kibbutz; at least for the kibbutz system at the time I was growing up . In the book *Population Economics* (MIT Press,1995), co-authored with Efraim Sadka, we analyzed two educationy-fertility regimes, referred to as the “children as capital goods” regime, and the “children as consumption goods” regime. The “children as capital goods” regime features parents who treat their children as a “capital good” , bringing them up and investing in them with an objective that the children, as grownups, take care of parents who already reached their old age. This model seems to capture fertility-education choices in traditional economies, where risk-sharing and financial saving institutions are almost entirely absentPublic schooling is scarce and government provided social security system does not exist. In contrast, the “children as consumption goods” regime prevails when financial markets are well developed and the government provides both public education and old age social security. The fertility-education decisions are motivated to a large extent by the parents' altruistic and kinship motives. They can provide for their old age securities through alternative market-based and government provided means. This means that parents, who care about the well-being of their children, would bring out relatively fewer number of children. In such a fertility-education regime raising a child is costly. Because, parents invest in the education of each one of them, so that they become skilled and raise their earning capacity.

Interestingly, the Kibbutz system at the time I grew up, the investment- in- education decisions were akin to as “children as capital goods” regime in my analytical model . The Kibbutz cut itself altogether from the national education curriculum, had no use of exams and diplomas, and did not allow, as a rule, its members to pursue higher education at the universities. The educational system put an emphasis on skilled required for its own business sector; mostly agriculture. The upshot was that opportunities, which outside of the Kibbutz require broader proven skills were either unavailable, or very costly to take advantage of, for a typical person who was raised in the Kibbutz. These policies were in part geared to

keep the children when they grew up to be productive and innovative only in the confines of the Kibbutz needed lines of work, thereby helping provide for the old age security of their parents, as in the “children as consumption goods” regime in the theory.

But there were also some important advantages. As to be expected in the Kibbutz system, I have had intensive social interactions with my peer group (in the Kibbutz system you can develop well your social skills, being together almost 18-20 hours a day with children of roughly your age; only in the remaining 4-6 hours a day did we spend a fair bit of time with our parents). I thus was able to develop good social skills at the very early age; which served me well later in life. In such an environment “peer effects” seem to be very important. When your classmate is particularly smart, dishonest or lazy, what does that do to you? Especially, when you are at the formative young age period. Another important influence is the “parents effects”, which serve to balance off some negative peer effects.

NON ACADEMIC HIGH SCHOOL AND ARMY SERVICE

Given that we were a very small group of first-born children in the Kibbutz, the Kibbutz could not afford to establish a separate high school just for the few of us. We moved to the boarding school in the adjacent Kibbutz, Kibbutz Amir. There the three Kibbutzim which belonged to the Marxist stream of the country wide movement that Kibbutz Shamir belonged to formed for the regional high school. The curriculum included history, literature, biology, chemistry and little math. There were no exams. Typically, we used to work in the Kibbutz’ agriculture for 2-3 hours a day. A healthy majority of the entire generation of children who attended this High School class did not ever attend college, because they did not have reached the college admission standards. It is therefore an *amazing* coincidence that I became eventually a professor of economics. The lack of incentives in the Kibbutz to put effort in education and readings reminds me of what Doris Kearns Goodwin wrote about the young Abraham Lincoln: ”In the pioneer world of rural Kentucky and Indiana, where physical labor was essential for survival and mental exertion was rarely considered a legitimate form of work, Lincoln’s book hunger was regarded as odd and indolent. Nor was his community understand the thoughts and emotions stirred by his reading; there were a few to talk to about the most important and deeply experienced activities of his mind”.

The coincidence has to do with the way I had to end the military service. I was drafted in 1958, before I was 18, and went to my military service in a combative unit as was expected of any young member of the Kibbutz. I managed to go through basic and NCO (non commissioned officer) training, in preparation of going to officer training. During the NCO training course, however, I was badly injured (from friendly fire, due in large measure of sloppiness in the enforcement of safety rules in the army at this time). I had been hospitalised for more than a year, in the Tel Hashomer hospital, unable to walk. Thus, after lying in bed for the

months in the hospital I realised that I will not be able to follow the traditional track of every Kibbutz young person: serve the best you could in the military service, preferably in combative units, and soon afterwards return to the Kibbutz agriculture. The whole idea was that you are not supposed to take any job outside the Kibbutz. There was no industry or professional service jobs in the Kibbutz at the time. It is hard to believe that now days Kibbutz Shamir owns the majority shares of one successful public company (listed on NASDAQ) which produces eye lenses, and another public company which produces textile substitutes. (Shamir Optical company's R&D department, which carries out R&D for lens makers, is considered one of the best in the world. Shamir Optical also makes half-finished lenses for laboratories. It started more than 20 years ago in consultation with Koby Rubinstein and Shmuel Vigder from the Technion who numerically solved a not-too-easy problem of finding the lenses surface with prescribed variable optical characteristics.)

From my hospital bed I had therefore to rethink my future. I realized that my future must be quite different from the typical career pattern of almost all of the Kibbutz members. The Kibbutz High School system I graduated from was outside the state schools system, with a completely different curriculum, and without the state wide matriculation exam, a key requirement to attend college. (In fact there were no exams at all in the Kibbutz High School.) Therefore, I did not have even the minimal pre-requisites for attending College. I had to study for the rather demanding high-school matriculation exam that was required in Israel from my hospital bed. I did my studies by correspondence with the British Educational Council. The British Council as we called it was one of the good institutions that the British Empire brought to former colonies. I passed the six matriculation exams, but with mediocre grades only. It took a full year, or two, for me to rebuild up my physical stamina and to be able to walk. I then applied to the Hebrew University, and moved to Jerusalem. Remarkably I am the only person from my high school class (except one, Hillel Efrat) who went to study at a University!

The act of leaving the Kibbutz was traumatic for my parents. My father's standing as a founding member of the collectivist idealistic community was shattered. He had his problems with this egalitarian-pressuring community before because he was one of the few intellectuals in a community was the slogan-like principle "first of all hands (not brains)"; meaning the first priority is a work in the agricultural, income-generating, sector of the kibbutz. But now it was almost the last nail in the coffin, so to speak, because his first born child has left and will not continue his own main agenda in life—living in the kibbutz. Forty years later came out a new Israeli movie (shown in the 2006 **Sundance Festival**) which have shown a glimpse into the difficulty of being a different persona (in the case of my father it meant intellectually oriented; in the movie it was mental instability) in an egalitarian society.

Sweet Mud is a powerful coming-of-age drama about Dvir, a 12-year-old boy on a kibbutz in the 1970s with a psychologically unstable mother, and how the seemingly progressive kibbutz lifestyle is unable to deal with her illness and Dvir's dedication to her. The film addresses the

conflict between individual freedom and collective constraints as defined by the kibbutz ethics, a conflict which Shaul understands well from his days at Kibbutz Kissufim in the Negev.

I do not believe in a movie type of “John Wayne individualism” where people pull themselves up by their own bootstraps, as is written in fairy tales. The coincidence that made me, eventually, a successful man of the economics science, had to do with the remarkable opportunities that modern global world offers to so many, and increased number of people, of many backgrounds. Imagine in my case what would have been my career without the benefits I received from winning a fellowship from the University of Chicago, so far away from Kibbutz Shamir where I grew up and lived up to the age of 25 years old?

From the Hebrew University to the University of Chicago

I am the only member of my high school class that was able to go to a university. I recently met Uzi Tsur, a classmate from Shamir (indeed the first born child of the Kibbutz! Later on he became the architect of the very successful business of the kibbutz). He reminded me that he was frustrated by the fact that I was finishing doing home works in school much before anybody in my class. I was thinking that even if it was true, so few home works were assigned, no exam ever were performed that this is not an evidence for good scholarship.

I did remain a member of the Kibbutz, after my army service and long hospitalization, when I attended college in Israel. The nature of my college specialization had to be a coordinated collective decision by the Kibbutz and myself. We reached an acceptable compromise that I will be specializing in agriculture, which I pursued at the Faculty of Agriculture of the Hebrew University. But during my second year in college I became fascinated with economics. As my good friend Elhanan Helpman said: “You always talk about social problems when you are young. With economics, one can attempt to think in a systematic and somewhat formal way about social problems.” I felt exactly like this. But I realized that I have to study economics as rigorously as I could. I became also majored in economics. I then commuted every day from Rehovoth to the Tel Aviv branch of the Economics Department of the Hebrew University, which later on became the Department of Economics of Tel Aviv University. I still remember my great teacher in Introductory Economics, Yoram Ben-Porath (the President of the Hebrew University killed at a young age in a traffic

accident near Eilat). At the same time in Rehovoth, I became a student of Yair Mundlak, who was influential in my decision at a later stage to apply to graduate studies at the University of Chicago. In the Rehovoth class I was one of the few to pursue an academic career. But, some of my classmate became very successful in the private business sector (one of them, Israel (Lally) Makov, has been the CEO of Teva pharmaceuticals, a largest Israeli multinational).

At this stage important stage of my life I married Shula Hachlilli (from Kibbutz Ein Hachores). We returned to Kibbutz Shamir. We have been together ever since and we have by now “tones” of common memories and a few very good friends.

I had a position as a senior economist in the regional office of the Ministry of Agriculture. We had our first child Ofer (better pronounced in English as Ofair). He lived a relatively short life and died at the young age of 30 from a progressive form of multiple sclerosis. This remarkable person was able to go through the military service, as an officer, and the very demanding academic education while fighting day by day a progressive form of Multiple Sclerosis that eventually led to his untimely death. He was awarded a Ph.D. in economics from the Department of Economics in Georgetown University in 1996. (Susan Collins, his adviser, is a well known international economics professor, currently the Dean of the School of Public Policy, in the University of Michigan.)

My parents refused to swallow the “bitter pill” of my leaving the Kibbutz and going to a premier school in the USA. They looked at it like a defection. Their *idée fixe* is the superiority of life in a Kibbutz system, over the capitalistic world around them. They were brought up to despise the American system. They were also under tremendous pressure by their peer group in the Kibbutz. My leaving the Kibbutz undermined their standing in the Kibbutz. In a communal system like the Kibbutz, where there are no financial rewards to individuals, respect from your peers is the most important reward; “punishment” of being pushed out from the consensus is devastating. My parents stopped any meaningful contacts with Shula, my wife, Ofair, my 6 month son, and me for a few years. Our close relations were gradually restored after 4 years, when we returned to Israel. The tension around our leaving the Kibbutz was very visibly painful to my mother, obviously. If it were to be her choice she would have not severed the relationship in the first case. But my father was torn between two conflicting forces, his standing among his colleagues in the Kibbutz (and the ability to function in the Kibbutz if a member deviates from the consensus) and his private feeling towards us. The break in our relationship has never completely mended. I grew up in the generation of the most acclaimed Israeli novelists Amos Oz and Abraham B. Yehoshua (born a bit before me, in the 1930's; I also read with great interest a young novelist, Amir Gutfroind), whom I greatly admire. They, like me, experienced the height of the kibbutz movement, the post-World War II immigration to Israel and the heady years that followed Israel's creation. They wrote critically about the suffocating environment of the “reut “(meaning: togetherness; not literally)” system, where individual aspirations were sanctioned. The founding ethos were dedication to the group, whether the kibbutz, the military, or the labor movement. From my parents' perspective, when I planned to move up to graduate studies in economics at the University of Chicago I was departing from the ethos. It was a bitter pill for them to swallow. Because, they were

disappointed that I did not follow their ideology based way of life. It was also a setback to them since it reduced their stature among their peer group in the Kibbutz. In the absence of any pecuniary incentives in the Kibbutz system, the respect and trust among you peers, a substitute to pecuniary incentives, was highly important.

I begun graduate school in the University of Chicago in the Fall of 1966, with my wife and our 6 month old son, ofair. Our plan was to live on a relatively small fellowship from the University of Chicago (about \$1,500.00 a quarter, in 1966 dollars), and no other source of support.

The year 1967, my first year as a graduate student at the University of Chicago, was tough for me —trying to establish good record and pass the demanding “core exam” (the device used for screening first-year graduate students at the University of Chicago at the time) by the end of the year. End of the year came with an unexpected war in Israel. Luckily it was short and I could go back to prepare for the Core Exam; the main screening device used in Chicago at the end of the first year.

(The Six Day War War was fought in 1967 between [Israel](#) on one side and [Egypt](#), [Jordan](#) and [Syria](#) on the other side. From its beginning to the end, the war lasted 132 hours and 30 minutes (less than 6 days). But the duration was shorter on 2 of the 3 fronts: on the Egyptian side only 4 days, and on the Jordanian side only 3 days. It was only on the Syrian side that the war had lasted the whole 6 days. In Israel and the West the war is called the Six Day War. In the Arab world, it is known as the June War, or simply as "the Setback." Never has a conflict so short, unforeseen and largely unwanted by both sides so transformed the world. The Yom Kippur War in 1973, the wars in Lebanon in 1982 and 2006,, the Camp David accord with Egypt in 1981, the Camp David Accords with the Palestinians in 1993, and the one that had not been reached in 2000, the controversy over Jerusalem and Jewish settlements in the West Bank, the Palestinian-initiated turmoil ("*intifada*"), in 1987 and in 2000, and the rise of Palestinian terror: all are part of the outcome of those six days of the intense Arab-Israeli fighting in the summer of 1967.)

As a reminder, A few words about the University. University of Chicago has been an intellectual center in economics. Since 1969, when the Nobel Prize in economic sciences was first awarded, twenty-two recipients of that prize have been faculty, students, or researchers in the Department of Economics, Law School, or Graduate School of Business (GSB) at the University of Chicago, including Milton Friedman and George Stigler. Four Nobel laureates are currently members of the department: Gary S. Becker, Robert W. Fogel, Robert E. Lucas, Jr., and James J. Heckman. In addition, four of the six recipients of the American Economic Association's Walker Medal were members of the faculty (J. M. Clark, F. H. Knight, Jacob Viner, and T. W. Schultz). The John Bates Clark Medal, awarded for the most promising US economist under the age of 41, has been awarded to five Chicago economists: Milton Friedman, Gary S. Becker, James J. Heckman, Steven Levitt, and Kevin M. Murphy. Since World War II, the department has had, relative to its size, a larger number of faculty than any other serving as presidents of the American Economic Association.

Chicago is a completely new for me, in way of life, social interactions, leaving as a family with a young infant, etc.

The tallest buildings in Chicago, which is now known for its special high-rise architecture, in the 1960s, before Sears Tower and McCormick Tower changed the city's landscape, were only few buildings: Marina City and Prudential Building, in the Chicago Loop. The South Shore, where I rented my first apartment in Chicago, immediately after I arrived there on August 1966, looked like a neighborhood that has undergone a radical demographic change, with old 4-5 story buildings. I did stay in the South Shore during the record winter snow storm of 1967, and had trouble to commute to the University. The better time in Chicago is between May and September, when Chicagoans do their best to forget the harsh winters and the tornado season in the Summer. Then, the lakefront comes alive with free concerts, events and activities.

I moved to the University of Chicago graduate student housing, in the "Ferfex" building on Hyde Park-- on the 51st street and Dorchester street in the Summer of 1967. There, my oldest son, Ofer, went to kindergarden in Mount Sinai Temple, 53rd Street and Lake Shore Drive in *Hyde Park*. My second son, Ronny, was born in the Michael Rees hospital on 2929 S Ellis Ave, near the Lake Shore Drive.

In the Fall of 1966 I am in a new stage of my life as a graduate student in the University of Chicago. At the University things were much different, as one may expect. I found, as many people did before me, that the interactions among bright and motivated classmates in a graduate school is extremely important for transforming an ordinary economist into a scholar, who is able to carry out state-of-the-arts research. Many of my classmates at the University of Chicago later became well known academic economists. Among them: Michael Mussa (former chief economist of the IMF), Rudiger Dornbusch (one of the most important international economist of his generation; died at a relatively young age), Jacob Frenkel (a former chief economist of the IMF and a former Governor of the Bank of Israel), Rachel McCulloch (Brandeis University), Doug Purvis (who died a few years ago, in a ski accident), and Claudia Goldin (Harvard University). University of Chicago was at that time one of the leading institutions in the world. For a young student in economics, these years provided heady interactions with the giants of the profession: Milton Friedman, Robert Mundell, Hirofumi Uzawa (†), and George Stigler. The experience also instilled in me a first rootedness in the academic world and the state of the art research issues, that served me well throughout my academic career. I had an opportunity to indulge in my love of theory and my engagement in the live policy questions affecting social

welfare. Members of the Chicago faculty: Hiro Uzawa, Harry Johnson, Bob Mundell (Nobel prize winner), Al Harberger, Zvi Griliches, Milton Friedman (Nobel Prize Winner), Frank Knight, T. W. Schultz (Nobel Prize Winner), Robert Fogel (Nobel Prize Winner), George Stigler (Nobel Prize Winner), Lloyd Metzler, and Henry Theil. However the Nobel Prize in economics did not exist yet when I started graduate school in Chicago at the end of 1966.

As for Milton Friedman, who died in 2006, at an old age of 94, his politics may have generated public controversy, but his scientific contributions yielded a consensus of admiration among his professional colleagues. When students today are taught about the determinants of consumer spending, the history of monetary policy, or the relationship between inflation and unemployment, they owe much to the intellectual legacy of Milton Friedman. I still remember the graduate economics course he gave in 1967 that was later the basis of Friedman's AEA presidential address, in which he demonstrated how short termish is the inflation-output tradeoff if market participants internalize future inflation and wage expectations into the wage and price contracts. I felt that I am witnessing a breakthrough in economics thinking of this much debated issue.

An anecdote about Milton Friedman's visit to Israel in the late 1970s is worth telling. He had a meeting with Rabby Shlomo Lorenz, the head of the Knesset finance committee. The Rabby asked Milton Friedman whether he can compactly give the essence of the economics paradigm in one sentence as Rabby Hillel did 2000 years ago. [Around 2,000 years ago a non-Jew told Hillel, a famous Jewish teacher, that he would convert to Judaism if Hillel could teach him the whole of the Torah in the time he could balance on one leg. Hillel replied... "What is hateful to yourself, do not do to your neighbor. That is the whole Torah; the rest is just commentary. Go and study it."] Milton Friedman replied with what he is always famous for saying: "there is no such thing as a free lunch."

Zvi Griliches, without a single year in high school enrolled as a freshman in the Faculty of Humanities in the Hebrew University, at the end of Israel War of independence. Born in Lithuania, Griliches was a holocaust survivor who lost his parents in the Dachau concentration camp. Following the liberation of the camp in 1945, Griliches was sent to a British internment camp where he taught himself to read English. After the war Griliches spent two years in Munich, joining a Zionist youth group, Hashomer Hatzair, and ultimately sailing by illegal ship to Palestine, where he was captured by the British and interned on Cyprus for seven months. He arrived in Palestine in September 1947 and served briefly in the pre-state Israeli army. He learned Hebrew, worked on a kibbutz, and prepared himself for the bagrut, the national high school equivalency exam. "I spent about six months trying to catch up on the 10 years of school that I had missed," he explained. He enrolled for a year in the Hebrew University of Jerusalem as a student in history. Griliches' sister and uncle also survived the war, and emigrated to the United States. The story about this straight A student is that when his adviser at Berkeley gave Zvi the only B grade in the entire record, Zvi raised the issue with the adviser that this will complicate his applications to graduate schools. The adviser told him, "well, this would make your record appear more like a human being record...". But after a second check of how he graded Zvi's exam the grade was restored to an A. Zvi received a fellowship as an undergraduate student in agriculture in Berkeley, which did not require high school credentials. Shortly after entering the Hebrew University Zvi, was accepted to Berkeley, to study agricultural economics, what he called "useful economics". Zvi graduated from Berkeley and entered the graduate program in economics at the University of Chicago in 1954, and from there on it was a meteoric rise. He completed his Ph.D. in 1957 (the legendary hybrid corn work, which catapulted him into fame), and joined the

faculty at Chicago, soon becoming one of the leading applied econometricians in the US. He did very well in graduate studies at the University of Chicago where he wrote an amazing dissertation on the "Diffusion of Hybrid Corn Technology," and almost immediately became an academic super star. Zvi was awarded the John Bates Clark Medal in 1965, at the age of 35 (significantly, the Bates Medal is given every two years to the best economist under the age of 40; Milton Friedman received the medal very early on. It serves as a predictor of winning Nobel in economics a few decades later. Some of us in the profession were critical of the Nobel-prize committee for not awarding him the prize.) We had a thing or two in common: we both were handicapped by the lack of formal schooling before college, and we both turned into the economics profession through college-level agriculture.

In a looser sense, the term "Chicago School" was associated with a methodology which is relatively averse to general equilibrium reasoning in favor of more economics intuition obtained from partial equilibrium analysis. The "Chicago School" has had various phases with quite different characteristics. In the 1960s it was dominated by the monetarist approach.

During my student period of 1966-69, the adherence to neo-classical economics meant that you should be critical of the Keynesian economics' ad-hockery. Evidently, the Keynesian approach to crises that are triggered in the financial sector (to be distinguished from business cycles that are associated with technology shocks) has been vindicated in the 2008-2010 global crisis. But other aspects of the Keynesian model were successfully challenged at the time I attended the University of Chicago. Importantly, the Chicago approach emphasized the role of expectations' dynamics in macroeconomics. I was especially fascinated by Milton Friedman's course "money and national income" (he always disliked the term, coined by Bent Hansen, "macroeconomics"), where he taught us the remarkable ideas of what later became his 1968 AEA presidential address on the expectations-augmenting Phillips Curve.

In his survey, Malcolm Rutherford describes the leadership position Milton Friedman took in Chicago like this: "The key to the development and eventual dominance of the 'Chicago View'" in the post World War II period was the uniting of Milton Friedman, George Stigler, and Kenneth Wallis on the Chicago faculty. Friedman took the leadership in promoting the Chicago View, particularly in his price theory course, his work on macroeconomic and monetary economics, and his methodological viewpoint. Friedman's main targets were Keynesian economics, the work of those associated with Cowles [a pre-eminent theory group that produced some of the best theory work in the 1950s], and the imperfect competition theories. Unlike Frank Knight [the best research persona in the first Chicago School], both Friedman and Stigler undertook considerable amounts of empirical work. The empirical orientation of Friedman and Stigler can be seen especially strongly in their early connections with the National Bureau of Economic Research [known as the NBER, with whom I have been associated since the early 1980s]. Friedman's contact with the NBER began in 1937 when took over Simon Kuznets' study of professional income. Later, at Arthur Burns' urging, he took on the study of the monetary aspects of the business cycle which resulted in Friedman and Schwartz's *Monetary History* (1963). The Nobel prize winner, Bob Lucas, who entered Chicago 6 years

ahead of me, describes his experience, as follows. "Friedman's class was not devoted to training us in technical nuts and bolts of economics. He assumed that we had already been through this, or would do so later, and focused instead on the use of economic theory in thinking about substantive questions of all kinds. He focused directly and intently on the one student he was engaged with at the moment, never playing to the gallery."

Hirofumi Uzawa, the distinguished economic growth theory scholar (whom Kenneth Arrow brought to Stanford as a young Japanese mathematician with no background in economics) had the greatest influence on my research at the early stage. The summer after my first year as a graduate student was one of the most exciting. Hirofumi Uzawa received an NSF grant to bring around a dozen graduate students from around the country to work together on growth theory. There I met several bright young students that were working on cutting edge research projects: Lenny Mirman (Rochester), Bill Ethier (Rochester), Guillermo Calvo (Yale). Hiro got stranded in Japan. He asked Miguel Sidrauski (his former student, and then the young star from MIT, who died from cancer less than two years afterwards) to lead the "Summer Camp". We, the students, and Miguel, our leader, were highly interactive. It was an exciting first experience of an interaction within a research group. (The particular style of Uzawa, which followed the great tradition of Robert Solow - simple and concrete models, was directed at answering well defined questions. Styles of the economics taught in most of the universities were quite different. Either the abstract general equilibrium models, for which Berkeley was then noted, or the simpler partial equilibrium models for which Chicago (minus Uzawa) was famous.)

Hiro is well known to macroeconomists for his seminal contribution to endogenous growth. In his article in the 1965 *IER*, productivity permanently increases as the result of permanent accumulation of human capital. Uzawa was thus a first mover in the new growth theory. The symbol H (for Human Capital, or for Hiro?) is today everywhere in models of economic dynamics. My Ph.D. dissertation has been an (and the first one) application to market economy of Hiro's human capital optimal growth theory.

Hiro has had many successful students and mentees. Your *MD* interviewers are lucky to have been among those whom Hiro has influenced profoundly. A very incomplete list of the others would also include Dave Cass, Steve Goldman, Harl Ryder, Hajime Oniki, Bob Lucas, George Akerlof, Joe Stiglitz, Miguel Sidrauski, Morris Teubal, myself, Guillermo Calvo, Bill Ethier, and Lenny Mirman.

Hiro is widely recognized and revered in Japan. He was elected to the very selective Japan Academy in 1989 at a remarkably young age. He was named "A Person of Cultural Merit" in 1983 and elected to the Order of Culture in 1997. Hiro has received significant international recognition. He was President of the Econometric Society. He is a Fellow of the Econometric Society, Member of the American Academy of Arts and Sciences, Foreign Honorary Member of the American Economic Association, and Foreign Associate of the U.S. National Academy of Sciences.

Rudi Dornbusch, a classmate of mine, writes about these days in Chicago very succinctly, as he always did: "There was the "oral tradition" and there were the "workshops," the formidable feeling for students and faculty alike of a revolution in the making. The great issue of the day was just how the economy works and what role government must play, if any, and what role monetary policy must definitely not be allowed to play."

Michael Mussa and Russ Boyer, Jacob Frenkel, Rachel Larsen (nowdays, Rachel McCulloch), Hugh McCulloch (not to be confused with the 3rd US treasury secretary who served under Abraham Lincoln), Rudi Dornbusch, Ron Hanson, Doug Purvis were graduate students together at the University of Chicago from 1966 to 1971 (I stayed in Chicago from 1966-1969). Much of the interaction of the international economics students took place in the International Economics Workshop; which was organized by Harry Johnson and Robert Mundell. These persons were the leading international economists in the world, at the time. The leading international economics model was the Mundell-Fleming model. [many years later I contributed to transform the Mundell-Fleming view of international macroeconomics to micr-based inter-temporal view!] My classmate Russ Boyer told me that "the first time I heard Fleming's name was from Jacob Frenkel in 1969 in the corridor outside the seminar room in which the workshop met each Monday. The name came up in the context of a discussion of Richard Cooper's (1969) newly published volume of readings, International Finance". In those days there were only very few readings books. They were indispensable in the classroom A remarkable aspect of the volume, Jacob pointed out, was that it did not contain a single paper by Mundell. Being a well-informed student of international finance, Russ wondered about the glaring omission of Mundell's magnum opus, "Capital Mobility and Stabilization Policy Under Fixed and Flexible Exchange Rates" (published in 1963). To his surprise Cooper had found an alternative for that publication in the form of a paper by Fleming (published in 1962). The hallmark of the Mundell-Fleming model (the name was coined by Rudi Dornbusch; the model could also be called Fleming-Mundel model) is that it incorporated into a Keynesian open economy model capital mobility. Most of my work later in the area elaborated on the role of capital mobility in the globalization era. However, Mundell research direction has been reversed after he made the contribution to the Mundell-Fleming model. He almost never came back to deal with the capital mobility issue. So I realize now that I have not benefited as much from the International economics seminar which was regarded as a launching track for the rest of my colleagues research career. Few economists are aware of the extent of Mundell's reversal with respect to capital mobility. Russ boyer observes: "In his capital mobility paper, Mundell writes that the assumption of perfect capital mobility has the merit of posing a stereotype toward which international financial relations seem to be heading". That view set the research agenda in international finance for at least 30 years. In stark contrast, Mundell's own research moved in just the opposite direction; he assumed thereafter that the economy under analysis was in a situation of zero capital mobility." Such an assumption is made in his analysis of growth and the balance of payments, which laid the groundwork for the monetary approach to the balance of payments. In fact the defining feature of the international economics seminar, according to Harry Johnson, was this approach, which essentially is due to the classical treatment of fixed exchange rate without capital mobility by Hume.

What about the political right wing leaning among the University of Chicago faculty? I have been all my life left off center in my political philosophy. I was obviously not keen of mixing right wing ideology and economics science. Here is what Rudi Dornbusch remembers: "Even though the ideology was patently free market economics, politics was really not to be seen. I might be contradicted by those who note that during the 1968 campus riots, the department continued lectures as if the outside world had not stopped. I remember vividly demonstrators entering Friedman's class only to be told that they were

interfering with the freedom and choice to learn; moreover, not having registered they were not even free to stay quietly. In hindsight amazingly, the protesters left and our insular clique went on experiencing the quantity theory of money.”

During the formative years at the University of Chicago in the late 1960s, I asked myself why I had gone into economics. The answer, I gave to myself, was essentially very similar to the one the 2006 economics Noble Prize winner Ned Phelps gave: “Without being aware, I think I was being indoctrinated into what was called Vitalism, the idea that what makes life worth living, the good life, consists of accepting challenges, solving problems, discovery, personal growth, personal change. My reading of philosopher David Hume taught him “the importance of imagination in understanding things”, while Henri Bergson’s *Creative Evolution* argued for free will against determinism; and the Greek heroic epics, Cervantes’s *Don Quixote* and Ralph Waldo Emerson argued for self-reliance.”

Ronny, my second son was born during our last few month in Chicago. He received a Ph.D. degree in economics from Princeton University and then moved to become an assistant professor of economics at NYU. In 2005 he joined the economics department of LSE in London as a tenured faculty member. I am proud of his devotion to scholarship and the way he is mustering meaningful political economics problems at the cutting edge of economic research. In our profession, as well as in others, we tend to have an established way of doing things. Often the academic establishment is hostile to new approaches. There are two major ways open for freshly minted graduates from a Ph.D program. One way is to choose topics and approaches in line with the current fashion. Accordingly, the safest route to publish (something that healthy share of the economists cannot ever do) is to do a minor extension of a published work written by an established leader. At a latter stage, when a number of publications are already secured, an attempt sometimes is made to deviate from such leader-follower track. But many times an attempt at original work at a late stage is not working well. A second way is to stick to a research agenda independent of the current fashion. I was always attempted to follow this approach. Ronny’s first three publications in leading journals (*Econometrica*, *The Journal of the European Economic Association*, *The Journal of Economic Theory* and *the American Economic Review*) deal with genuinely fundamental political-economic issues.

I have had a somewhat rocky road when attempting to do what I believed to be a meaningful, as opposed to attempt research projects on well researched topics with methods that were in fashion at the time.

Issues of human capital and growth were the subjects of my first academic work. An influential paper by Hiro Onawa demonstrated how a centrally planned economy can efficiently affect growth through the allocation of the economy’s resources between a sector that produces know how and other productive sectors. In my doctoral thesis I applied these ideas to a de-centralized, market-based, equilibrium model of an economy which accumulates human capital and physical capital. I noted that “economists have long noticed that people play an important role in the

process of production, and in return they are rewarded by an amount which constitutes the largest fraction of income.” I guess I heard it from T. W. Schultz. In my model the accumulation of human capital is the driving force behind a *permanent* rate of increase in income per capita. This feature was dubbed in the 1980s as endogenous growth. My job-market paper went through three rounds of reviews in the leading journal, the American Economic Review. The third revision was however rejected by the editor. (I believe that growth economics was much beyond his area of expertise. For more than a decade, he served as the managing editor of the American Economic Review; which, perhaps, made him a bit prejudging and intolerant to new ideas). I decided to divide my Ph.D. Dissertation into two papers, and published them in less visible journals than the AER. One short piece went to the Review of Economic Studies. Unfortunately, the more integrative piece among the two went to *Metroeconomica* (a respectable outlet for research in economic theory at the time, which unfortunately sunk into complete obscurity afterwards). These papers turned out to be important, because one stream of the Endogenous Growth Theory in the 1980s grew out of another Chicago “school” that Hiro Uzawa started, and I extended in my Dissertation. But I felt that I did not get the right credit for this fundamental contribution. Two years later, however, I was extremely successful with another early endogenous growth paper of mine (in which the endogenous population growth cum education is the driving force for a permanent rise in income per capita because parents trade off “quality for Quantity” of their children in the growth model). It was published by the American Economic Review (although with a different editor), and was recognized as the first paper in a “big industry” of papers that followed. I learned first-hand how frustrating and rewarding at the same time is the publication process in our profession, especially for young economists, as we definitely were at the time. Life may be full of disappointments, but, it's also full of surprises.

Another example of the less-than-perfect outcome, falling short in the short run, which eventually turning into a long lasting scientific contribution, in 1975 is when Elhanan Helpman and I started to work on the research project about international trade under conditions of uncertainty. At this point in time there were several papers showing the basic propositions about specialization by a country according to the principle of comparative advantage in the presence of international trade that have been known since David Ricardo, break down in the presence of technological and demand uncertainty. Applying cutting edge ideas from finance, Elhanan Helpman and I were able to show how you can restore the basic propositions of trade and industry specialization in the presence of financial markets that enable risk sharing between countries, and which were completely ignored in the trade literature. The editor of the Journal of Political Economy (who belonged to a generation that one diagram could be used to make an economic argument, rejected our paper on the ground that the Journal is not interested in modeling per se; and what remains when the argument is stripped down worth only a note. But, when we received the letter from the editor we already wrote several important extensions and applications. Thus we decided to write a full fledged

book, which came out 3 years later, and made some impact. The editor happened to be Harry Johnson. Ironically, although Harry was then one of the most cited in the profession, he has not not much cited since he died.) This is possibly an example of distortions arising from “market power” . In this case it is the "market" of Journal editing. Economists often tend to criticise market power in when they play the role of policy advisers but not when such a distortion involves themselves. The paper eventually appeared in the Review of Economic Studies. But by the time the paper appeared we already developed many more ideas that warranted a book. This book would not have been written if the journal publication process were to be smooth. The book turned out to be a gem. It is very rewarding to see that now days, when the real business cycle approach spread into international finance, that the basic notions that we analyzed in our book are resurfacing in the research of new Ph.D dissertations. However, it is a bit frustrating that many times the young economists never heard of the Helpman- Razin work because they do not read the literature carefully, except what they were exposed to in the graduate school. An anecdote comes to mind. In the book we developed the first truly dynamic general-equilibrium model of the stock markets. The book appeared in 1978. Very few read the entire book and therefore missed the last chapter. Three years later Bob Lucas independently developed a similar model in the journal Econometrica. It attracted tremendous attention by the profession and the young guys in the profession referred to the stock market model as the “Lucas Tree Model”); although a similar model appeared earlier in our book. Today, many international economists are trying to construct dynamic models of international capital flows. Because capital flows can in principle move in and out of a given country at the same time, there is a distinction between net capital flows and gross capital flows. Without uncertainty, domestic and foreign financial assets are perfect substitutes and therefore only net capital flows can be flushed out in the model. The existence of uncertainty permits two-way capital flows. Ours, was the first dynamic model that coherently generated two-way capital flows; a preoccupation of current researchers.

First Academic Appointments

Minnesota was my first academic job. As I mentioned before, University of Chicago did not offer any rigorous course sequence in general equilibrium theory. In Minnesota I took advantage the courses in general equilibrium theory that Hugo Sonnenschein (who at the time worked on the Walrasian Theorem that market demand functions are essentially shapeless) and Leo Hurwicz (who at the time developed single-handedly the new field of mechanism design), Interestingly, University of Chicago did not however had a meaningful course sequence in general equilibrium theory; taught in such a masterful way. Minnesota in those days had a remarkable faculty. The mature department leaders were Leo Hurwicz and John Chipman. With Anne Krueger (the Deputy Managing Director of the IMF in the years 2001-2006) I have maintained a life long friendship.

There, in Minnesota, I was also greatly influenced by Tom Sargent and Neil Wallace, who, along with Bob Lucas, developed the most exciting field in macroeconomics at the time, rational-expectations macroeconomics. Greg Mankiw describes the transformation of the field of macroeconomics like this : “At the time the three new classical waves were first hitting shore in the 1970s and 1980s, one of their goals was to undermine the old Keynesian macroeconomic models both as a matter of science and as a matter of engineering. The field has evolved through the efforts of two types of macroeconomist—those who understand the field as a type of engineering and those who would like it to be more of a science. Engineers are, first and foremost, problem-solvers. By contrast, the goal of scientists is to understand how the world works.”

In Minnesota, Chris Sims then introduced elements of the new dynamic macro-econometrics into the graduate curriculum. Students were extraordinary: Andreu Mas Collé, Rob Townsend, Lars Hansen, John Roberts, Rich Kihlstrom, Salih Neftci, Matt Canzoneri, and more. With Andreu, who was a second year graduate student at the time he took my course on growth economics, I wrote a paper on the dynamics of growth in the presence of investment costs of adjustment.

I continued to have a position in Minnesota for a few years, jointly with becoming a lecturer at the then young Department of Economics at Tel Aviv University in 1970. To these days, I still feel nostalgic about the intellectual environment in Minnesota in those days. Why did I decide to move to Tel Aviv at this early stage of my academic career? Israel was the place that my parents immigrated to at a young age, to start something new, the Kibbutz. I grew up in the Kibbutz, a border settlement in which I sharpened my commitment to contribute directly to the country. It was therefore a relatively simple decision to return to Israel as a young economist. I have never regretted this decision.

In Tel Aviv in 1973 our daughter, Einat, was born. She now has a stable job in one of the Banks in Israel. We are happy about the way she matures to be an independent person who aspires to make progress in her career.

In Tel Aviv University when I started, there was an aura of something very new. We were assembled as young economists all of whom educated in the US graduate schools. I had terrific interactions with Elisha Pazner (died at the age of 35 after a very illustrious career) and Eitan Berglas, who founded the Department of Economics at Tel Aviv University and was one of the best academic economists that contributed to public service in Israel (He died at the age of 63). Later with a new crop of brilliant economists joining the Department I maintained an almost life long collaboration with my best friends Elhanan Helpman and Efraim Sadka. My vitae reflect well on the extent of these remarkable scientific collaborations. About 9 years after I started my

academic career I was invited by the finance minister, Simcha Ehrlich to serve as the Chief Economic Adviser to the Government of Israel and the Director of the Economic Planning Authority (Israel's equivalent to the US Council of Economic Advisers), located in the Ministry of Finance. At that time, about year and half after the "maapach" whereby a Likud right-wing party unseated the Labor party that ran the government for 29 years, since the establishment of the state; and also for decades in the pre-state period. I was an activist in the "peace now" movement at the time, but the top echelon of the ministry of finance was still professional civil servants that were inherited for the old regime. Simcha Ehrlich was liberal in his political views and market oriented. He asked me to join the ministry staff, even though he was fully aware of my political views. However, he was completely inexperienced in his job and the government of Menachem Begin was extremely populistic in its economic policy orientation. High inflation erupted within a few months after I took up the position of an economic adviser. I was in opposition to the policy mixture that the government adopted. Fortunately, for my integrity as an economist I left the position within 6 month. The inflation picked up to triple digit rates and stayed at the high plateau for a few years, until the radical stabilization policy the Shimon Peres, as a prime minister, implemented in 1985. This as close as I got to politics to realize that my comparative advantage is in the academia.

A (Short) Stint in the Israeli Government

In January 1979 I was invited by Simcha Ehrlich, the finance minister to serve as the chief economic adviser (something like the chairman of the Council of Economic Advisers in the US). I thought hard whether to accept the offer. I was in political opposition to the newly minted, first Likud led government in the history of Israel, after 29 years of Labor party political domination.

The 18th government of Israel, from June 20, 1977 to August 5, 1981 consist of: Menahem Begin, Prime Minister; Meir Amit, Minister of Transport and Communications; Aharon Abuhazeira, Minister of Religious Affairs; Zevulun Hammer, Minister of Education and Culture; Yigael Hurwitz, Minister of Trade and Industry; Ezer Weizman, Minister of Defense; Simcha Ehrlich, Minister of Finance; Gideon Patt, Minister of Construction and Housing; Eliezer Shustak, Minister of Health; Israel Katz, Minister of Labor and Welfare; Ariel Sharon, Minister of Agriculture; Shmuel Tamir, Minister of Justice; Moshe Dayan, Foreign Minister; Arie Naor, Cabinet Secretary.

Menachem Begin surprised everybody by initiating peace talks with Egypt. This made him "kosher" in my view. The top civil service at the government, inherited from previous governments, was at that time extremely competent. The top two persons in the Finance Ministry, Amiram Sivan, the Director General, and Eitan Berglas, The Director of the Budget, who was a colleague and friend, were regarded as the most qualified persons. It looked to me a good opportunity to shape up economic policies. I accepted the offer with great enthusiasm. Indeed, as soon as I started I found easy access to policy makers, and I was frequently invited to cabinet meetings. I regard as my chief achievement in this short position the fact that I was able to get a cabinet decision which ended decades of a practice whereby government loans were given to the private sector development projects un-indexed, notwithstanding the permanent inflation that was taking place. There

were two huge problems with this practice: (1) new investments in development projects were subsidized on a random basis; according to how the inflation turns out to be; and (2) the current huge stock of private sector accumulated private sector debt to the government was shrinking. This meant a big government fiscal deficit and a huge gift to business. (I remember that I designed the new policy with the aid of a then young economist at the treasury, Aharon Fogel, who nowadays is the chairman of the boards of Migdal Insurance Company and Ness Technologies; very successful enterprises). I regard the development-loans policy as the pinnacle of my short stint in Begin government. Especially significant is the achievement, in my mind; because Begin as the prime minister had been a Latin-American style populist leader on almost every economics matters!. And here I am, almost single-handedly, able to lead Begin and his Cabinet, to change course; against a very strong business lobby. (You cannot take from Begin, of course, what Anwar Sadat and Him were able to achieve on a more important front: the historic peace treaty between Israel and Egypt).

But as a month or two elapsed I realized that a big problem started to emerge: a quick entry to hyperinflation stage, unless some budget and monetary policies are enacted quickly. Menachem Begin was not interested in economics at all. He was not the one to lead a radical anti inflation policy package. Indeed, Simcha Ehrlich, the finance minister, even did not try to push for any such package. I left the government position after I went public with my warnings. The rest, the big hyper inflation that lasted until 1985, is, as they say, a history. The experience did solidify my determination to stay out of politics, for ever. Upton Sinclair pointed out that it's hard to get a man to understand something when his salary depends on his not understanding it. It's likewise hard to get a politician to understand something if his image among his constituency depends on not understanding it. Indeed, I found out during this intensive but short experience in public life that my own integrity is at danger if I stay in public office. I knew that such integrity is to be kept if I return to academia. And I enjoyed life in the academia so much more. I have never regretted the way I conducted myself in this short episode.

Later on, I occupied temporarily some academic administration positions. I was the Dean of the faculty of social sciences in the early 1990s and the deputy provost of Tel Aviv university in the early 1990s. You could speculate that in these positions I suffered from my lack of interest in marketing myself to the academic "constituency" and doing the necessary quid pro quo deals with deans, provost and president; although I had some management skills and a clear reform agenda. Over all, though, I was never in my element in these positions. I am happy that I did not get absorbed into the world of some power, but very little intellectual challenge.

I thought what is about what amounts to a success in life. As John Kay remarked, "The survivor in any bureaucracy, private or public, is not the person who gets things right – rarely a popular figure – but the one who attaches himself to success and distances himself from failure. In the clumsy hands of Gordon Brown, UK prime minister, this behaviour is so transparent as to be almost comical. But Alan

Greenspan, former chairman of the US Federal Reserve, deserved the label “maestro” for the skill with which he deployed this strategy for two decades (but, his reputation was destroyed after the great recession of 2007-9 because of his philosophy that capital markets are self-regulated; they need no government regulation). Like Napoleon, “he did nothing harmful to the progress of the battle, he inclined to the most reasonable opinions, he made no confusion, did not contradict himself, did not get frightened or run away from the field of battle, but with his great tact and military experience carried out his role of appearing to command, calmly and with dignity”. But, just as Napoleon’s run of victories ended at Borodino, Mr Greenspan’s ran out in the credit crunch.”

In academia, however you can better trace out the individual achievements. I was inspired to seek a successful academic career.

A Tragedy, Memories, and Memorials

Throughout life we inevitably suffer losses. That is true for most of us. Many can gently let go of what they have lost and develop new passions to replace their losses. But it is never easy.

The greatest tragedy in my family’s life started when our oldest son, Ofair, was diagnosed with (progressive) multiple sclerosis (MS) at the young age of 21. At our time, the medical establishment does not know how people contract MS.

Ofair Razin, was born on January 27, 1966 in kibbutz Shamir in Israel, the place where I was born too. At the age of six months we took him with us to Chicago, where I started my doctorate studies. When we returned to Israel he attended pre and primary schools, and later the Alliance high School at Ramat Aviv, a suburb of Tel Aviv. After graduation from high school he started his army service where he became an intelligence officer and served almost 4 years. We, his parents, could very well have had an early warning signal about his problem in the Summer of 1984, but the doctors missed it completely. In the summer of 1986 I participated in the NBER Summer Workshops in Cambridge. We spent a happy summer there. But in the middle of it Ofair felt sick and he lost his eye sight; it turned out to be a temporary loss. The source of his problem was not diagnosed at this time as Multiple Sclerosis (MS), an autoimmune disorder that affects the central nervous system.. No one suggested using MRI tests, which are now a days routinely used in such cases. The actual diagnosis had to wait until Ofair’s last year in the army. Piece by piece he lost control of his body; but Ofair still took the deterioration of his motoric functions in his stride. He was always smiling and interested in the person he talked to; hiding the inside concerns he had about his future life.

In the next year when he graduated from high school and was drafted to the army, as every

young person in Israel at this age is supposed to do, Ofair's enlistment to the army had been postponed because of the Cambridge episode. But he decided to volunteer and made a smooth transition to a career as an intelligence officer. Although already handicapped, he had to undergo an intensive officer-training course. He did it because he wanted to make the army service a meaningful service. But in the fourth year of service (as required for officers) the eye infection episode came back. At that point, the MRI diagnosis of multiple sclerosis had been made with certainty. It turned out later to be one of the most debilitating forms of the MS disease.

With the MS diagnosis confirmed, Ofair then started a real marathon race against time to complete his college education and built a career. His physical condition was deteriorating almost steadily: first he had to use a stick, then a walker. I still remember our experience in the first Persian Gulf War.

The First Persian Gulf War, Jan.–Feb., 1991, was an armed conflict between Iraq and a coalition of 32 nations including the United States, Britain, Egypt, France, and Saudi Arabia. It was a result of Iraq's invasion of Kuwait on Aug. 2, 1990; Iraq then annexed Kuwait, which it had long claimed. Iraqi president Saddam Hussein declared that the invasion was a response to overproduction of oil in Kuwait, which had cost Iraq an estimated \$14 billion a year when oil prices fell.

Saddam Hussein fired Scuds missiles at Israel every night continuously for 6 weeks, and Tel Aviv was targeted for obvious strategic reasons. Everybody in the A-zone of the country (Tel Aviv being one of them) braced every afternoon for the Scuds to hit the targets in the evening, when dark sets in on Iraq and the launching sites can be discovered by the anti-Saddam coalition forces. During the period of terror Ofair stayed first on the second floor of our house (address: 16 Pilichovsky Street, Ramat Aviv, Tel Aviv). He had to rush two floors down the first few nights to the bio-chemically secured shelter in the basement. After a few nights he moved himself to the basement to save the nightly trips down and up to and from the sheltered basement.

How many roads must a man walk down before you call him a man? (as Bob Dylan asks in *Blowin' in the Wind*). The answer my friend is indeed that Ofair had to walk (up and) down unusually treacherous roads, already as a teenager; this how he became a man.

Ofair attended college at Tel Aviv University, double-majoring in Economics and Psychology. After graduating, he entered the Ph.D. Program in Economics at Georgetown University. He and I moved together to Washington DC, where he was supposed to begin graduate studies in economics at Georgetown University, in the Summer of 1991. Ronny, my second son, who is very technically skilled helped to equip the Toyota car that we bought second hand with devices so that Ofair would be able to get the wheel chair into the trunk, and then walk to the driver seat. In a matter of months he lost the ability to walk. With all the things you have to pay for

in University, paying for health insurance is typically small potatoes. But what's last on the list for healthy students. Pre-existing conditions are not covered. We knowingly spent a lot of money outside the realm of the insurance coverage, on all sort of treatments and experimentation. A shocking episode came once after Ofair participated in a medical trial on a drug. Ofair had to stop taking all other drugs during the trial, where he could have been only in a placebo group of the patients; and therefore risked a further deterioration in his condition which was very grave. After the end of the trial period the NIH doctor in charge of the trial told the two of us that because commercial companies are going to continue the trial for a few more years, and they would like to demonstrate success of the treatment the hard stricken patients could no longer continue with the treatment. Ofair was among those who were thrown out. The Doctor brought the news as a matter of fact. We left the NIH campus in Bethesda, Maryland, in great despair!

My former student from Minnesota, Matt Canzonneri, then the department chairperson, was extremely helpful in easing the transition period for Ofair once the school year started. Ofair then faced two challenges; the increased level of incapacitation and a rigorous course of study. During the final stage of the doctoral program, Ofair worked mostly at home under the guidance of his dissertation advisor, Professor Susan Collins. In the summers while at Georgetown, Ofair had the opportunity to work in the research department of the World Bank. He gained good experience of dealing with data, which was useful for writing his dissertation. The dissertation was completed a few weeks before his death on December 16, 1996.

Ofair, all alone by himself, made the fatal decision to end his life. He had fulfilled all commitments he took while still in control of his body. Rather than falling into the imminent stage of complete paralysis, while still in control of himself he decided that he should go. On the very last day he sent an e-mail to Ronny who was at Princeton as a graduate student of economics, and Ronny immediately called us in Tel Aviv. I still remember the telephone very well. An hour later I was already on a TWA flight to New York, and then through a connecting flight to Washington DC. In Ofair's apartment I met Ronny and Dafna, who already arrived a few hours before me. Letters to the family members (including one to my mother, the only surviving grandparent), bills to be paid, and checks, were lying on his desk ready to be delivered. A complete Ph.D. dissertation manuscript was ready to be sent to Georgetown University. The funeral (at which I asked that the second movement from Beethoven's from Eroica—the "funeral March"—will be played out loud during the funeral) took place in Kibbutz Einat (for a secular burial), and the Jewish tradition of the seven days sitting after the dead (the *shivah*) took place at our home at Tel Aviv. The *shivah* was an opportunity for us to see a few hundred of our friends, from different stages of our life, who all came to our home during the week.

The official Ph.D. degree was awarded to Ofair by Georgetown University posthumously. The

main chapter of his dissertation was prepared by Professor Collins for publication after his death. It now appears as Chapter 3: "Real Exchange Rate Misalignments and Growth," by Ofair Razin and Susan Collins, in *The Economics of Globalization: Policy Perspectives From Public Economics* (Assaf Razin and Efraim Sadka, eds., Cambridge University Press, April 1999). The book, the Razin Prize in Georgetown University, and The Ofair Auditorium in the Eitan Berglas School of Economics' building at Tel Aviv University, are all dedicated to my son's memory. Past Speakers over the last 9 years in the Razin Prize event at Georgetown University are leaders in our fields: Jacob Frenkel, Kaushik Basu, Ken Rogoff, Paul Krugman, Jeff Sachs, Michael Mussa, Elhanan Helpman, Stan Fischer, and Dani Rodrik (I gave the first annual lecture.) Our friend Bob Flood has been at every one of the events. He knew Ofair well; he is one of my heroes for the way he has conducted himself in pursuing a brilliant research career, notwithstanding the daily struggle with MS. I feel that this is a tiny bit of what I owe Ofair for his courage and for what I learned from him throughout his short life, as to how one can conduct oneself with dignity under a non stop stream of adversities, and still be such a charming person to talk to.

How many years can a mountain exist before it's washed to the sea? The answer, my friend, is a 30 year of lifetime that is blown in the wind (paraphrasing Bob Dylan again).

Ten years after Ofair's death I remembered him by singing quietly a paraphrased version of Bernie Taupin's lyrics of the Elton John's famous song, Daniel.

Ofair is traveling tonight, as before, ill prone
I can see the red tail lights heading for the land of Zion
Oh and I can see Ofair waving goodbye
God it looks like Ofair, must be the clouds in my eyes

They say Zion is pretty, though I've never been
Well, Ofair says it's the best place that he's ever seen
Oh and he should know, he's been there enough
Lord I miss Ofair, oh I miss him so much...

Ofair is traveling tonight, as before, ill prone
I can see the red tail lights heading for the land of Zion
Oh and I can see Ofair waving goodbye
God it looks like Ofair, must be the clouds in my eyes
Oh God, it looks like Ofair, must be the clouds in my eyes.

Later, 13 years after Ofair's death, I adapted Leonard Cohen lyrics:

"Hallelujah"

OFER and me were here before
together we walked this floor
I've seen your flag on the marble arch
I know that our love was not a victory march
It has been 43 years since I knew ya
A Long time; worthy of a song : Hallelujah

Hallelujah, Hallelujah
Hallelujah, Hallelujah

There was a time you let me know
What's really going with you below
Then 13 years or so ago
You found peace don't ya
And now you can't do much, do ya?
but we can sing for ya: Hallelujah

Hallelujah, Hallelujah
Hallelujah, Hallelujah

life for you was never a game
But you knew well how to lessen the pain
turning every loss into big gain
there's always a blaze of light
even from some remote site
Iddo, our kid has the right notion
that not to light hanukka candles is not an option:
Hallelujah

Hallelujah, Hallelujah
Hallelujah, Hallelujah

You were clever, you had a nice touch
You tried your best even but it wasn't much
You let life go
And even though
It went at times a bit wrong
I'll stand before the Lord of Song
With very little on my tongue, but the song Hallelujah

Hallelujah, Hallelujah
Hallelujah, Hallelujah
Hallelujah, Hallelujah
Hallelujah, Hallelujah
Hallelujah, Hallelujah
Hallelujah, Hallelujah
Hallelujah, Hallelujah
Hallelujah, Hallelujah
Hallelujah

At the time when Ofair's illness became more and more acute I shifted my place of work more and more from Tel Aviv University to America : first, one stint at Yale University and several stints at the University Chicago; second, a year long visit at the IMF in Washington DC(to be even closer to Ofair). I had to quit my position as deputy provost at Tel Aviv University, which originally was supposed to put me on a track to top university administration positions), in order to stay with Ofair in the US. Ironically, the shift of emphasis in my career, back to full-fledged academic activities, has been an extraordinarily good move. I must admit that I much more enjoy academic research life over academic administration! My academic activities led to a level of professional recognition and great intellectual fun, that the son of two Kibbutz pioneers never dreamed would have been possible.

END OF "FIRST SEMESTER" OF LIFE

At my 60th birthday conference, I noted that in the Jewish tradition everyone lives for 120 years, and I viewed the conference on my sixtieth birthday as "a wonderful break between two semesters of my life." I briefly summarized the highlights of my research career—one in which I have written a dozen books, edited a dozen others, and published over 120 articles. I observed that a rejected paper in 1975 led to my first

book on globalization—a subject that still fascinates me. The book “A Theory of International Trade under Uncertainty”, written with Elhanan Helpman, argued that as capital markets became more integrated, there would be a strong tendency for countries to specialize according to their comparative advantage. Three subsequent books continued to explore the implications of global integration. *Fiscal Policy in an Integrated World Economy: An Inter-temporal Approach*, written with Jacob Frenkel in 1987, looked at the dynamics of the current account in a flexible price world; *International Taxation*, written with Jacob Frenkel and Efraim Sadka, examined the constraints that globalization imposes on the conduct of fiscal policies (the main problem is a “race to the bottom” among national tax authorities in a globalized tax market); and, more recently, *Labor, Capital, and Finance: International Flows*, coauthored with Sadka, analyzed the side effects (good and bad) of globalization.

Research: Past and Present

There is a saying which was always a guidance in my career: academics are only as good as their publications.

Like a few other peripatetic Israeli scholars, I have, over the course of my career, combined an academic affiliation at home (Tel Aviv University) with visiting positions at several U.S. (Minnesota, Penn, Northwestern, University of California at Berkeley, University of Chicago, Yale University, Harvard University, Stanford University, and now a days Cornell University) and European institutions (University of Stockholm and London School of Economics), including many stints as a visiting scholar at the IMF, World Bank, Bank Of England and Hong Kong Monetary Authority. My professional life as an economist is covered in my vitae, as I already indicated in the opening sentences. A Bio, which addresses a non professional audience, is not the right forum to go into a serious discussion of my research. Nevertheless, I would like to highlight what I consider to be my main contribution to research.

In the early 1970s I made a contribution to the theory of endogenous economic growth that Became popular in the 1980s and 1990s. The book “A Theory of International Trade under Uncertainty”, jointly written with Elhanan Helpman, dealing with what is now called “Globalization” (the market regime were both goods and financial assets are internationally traded in the presence of uncertainty), which put research in international economics on a new track, is still cited today. Our other project on the comparison between fixed and flexible

exchange rate regimes (The Canadian Journal of Economics, 1979; International Economic Review, 1982; and the American Economic Review, 1987) was quite influential in the literature which attempted to nail down fundamental differences across exchange rate regimes. My joint work with Lars Svensson (The Journal of Political Economy, 1983; Economic Letters, 1983), followed by my joint work with Jacob Frenkel (Fiscal Policy In the World Economy: Inter-temporal, dynamic, Approach, 1986), set up very early on (and independently of the great contributions by Jeff Sachs and Maury Obstfeld) the inter-temporal approach to the analysis of the dynamics of the balance of payments.

More Recent Research

In 2005 I completed a monograph, *The Decline of the Welfare State: Ageing and Globalization*, with my colleague and life-long collaborator, Efraim Sadka.

The main theme of the book is this: In much of the developed world, the proportion of the population aged 60 and over is expected to rise dramatically over the coming, which may necessitate higher tax burdens and greater public debt to maintain national pension systems at current levels. Low-skill migration produces additional strains on welfare-state financing because such migrants typically receive benefits that exceed what they pay in taxes. Higher capital taxation, which could potentially be used to finance welfare benefits, is made unlikely by international tax competition brought about by globalization of the capital market.

Applying a political economy model and drawing on empirical data from the EU and the United States, we draw an unconventional and provocative conclusion from these developments. We argue that the political pressure from both aging and migrant populations indirectly generates political processes that favor trimming rather than expanding the welfare state. The combined pressures of aging, migration, and globalization

will shift the balance of political power and generate public support from the majority of the voting population for cutting back traditional welfare state benefits. In my earlier joint work with Efraim Sadka (Economics Letters 1989, and the book: International Taxation, 1991), about tax harmonization was viewed by many as a standard model to evaluate tax competition when national capital markets are integrated, set a trend in research. The book *Population Economics*, written jointly with Efraim Sadka in 1995, became quite influential in the public economics literature. My work on international migration with Efraim Sadka, in *Labor, Capital, and Finance: International Flows*, provides a useful analytical framework in which migration policy can be rationally discussed.

[As most people know, the forecasts of population trends make gloomy reading. The old age dependency ratio (the ratio of those aged 60 or older to those aged 15–59) is already rising fast and will rise even more dramatically in the

next few decades. In the 15 countries of the European Union (EU), that ratio is set to increase from 35 per cent in 2000 to 66 per cent in 2050. For the USA the figures are 27 per cent and 47 per cent, respectively. These trends dealt with in my work with Efraim Sadka, on the political economics of the welfare state (integrated into the 2005 MIT Press book: *The Decline of the Welfare State: Demography and Globalization*) has been a great intellectual joy to write. A reviewer had this to say:” The (book) is a compelling political economy analysis that comes to the conclusion that the welfare state is not sustainable as it currently exists in most of the OECD (Organization for Economic Cooperation and Development) countries. ”

In 2007 I completed a monograph, *Foreign Direct Investment: Analysis of Aggregate Flows*, written jointly with Efraim Sadka. The main theme of the book is this. The 1990s saw global flows of foreign direct investment increase some sevenfold, spurring economists to explore FDI from a micro- or trade-based perspective. The book is one of the first books to analyze the macroeconomics of FDI, treating FDI as a unique form of international capital flow between specific pairs of countries. By examining the determinants of the aggregate flows of FDI at the bilateral, source-host-country level, we present the first systematic global analysis of the singular features of FDI flows. Drawing on a wealth of fresh data, they provide new theoretical models and empirical techniques that illuminate the vital country-pair characteristics that drive these flows. Uniquely, Foreign Direct Investment examines FDI between developed and developing countries, and not just between developed countries. Among many other insights, the book shows that tax competition vis-à-vis FDI need not lead to a "race to the bottom". That is, a situation that governments vying for incoming FDI that benefit their industries, compete to the point that at the equilibrium the business taxes are reduced to zero. The study of foreign direct investment is interesting because this type of international capital flows are both an engine and an outcome of globalization. The project started a few years ago by an attempt to find the unique aspects of foreign direct investment (FDI) that distinguish this type of international capital flows from bank loans and portfolio flows. The process of developing the ideas worked through the writing of several working papers (a few of my own, a few with Efraim Sadka, a few with Prakash Loungani, and a few with the young economists, Yona Rubinstein and Itay Goldstein; Itay was my student at Tel Aviv University. As a reviewer of my forthcoming book with Efraim Sadka *Foreign Direct Investment : Analysis of Aggregate Flows* (Princeton University Press, 2007) writes: “It is commonly heard in policy circles that FDI is illiquid and that foreign direct investors trade off any potential cost or other advantage they may bring against the fact that their investments will be illiquid. This chapter provides a very nice model that captures this

intuition formally. In particular, ownership is modeled as conveying earlier access to information about the productivity of the firm. This conveys a benefit in terms of planning investment. However, because this information is private to the foreign direct investor, it also leads to a market failure phenomenon known as lemons problem. That is, if the investor needs to sell the project, they face the problem that potential buyers fear that the sale is motivated by private information about low productivity (instead of a genuine need for liquidity). This means that firms that are sold attract a lower price than otherwise: they are illiquid. In the light of this and other issues, this book seems especially topical and ambitious.”

My collaboration over the last 30 years with Efraim Sadka have been intensive, and always great fun. It has been a good double act! We also became very close. In a most tragic moment of my life, December 16, 1996, my son Ronny called me from Washington DC to Tel Aviv to let me know that Ofair died. I called Efraim within minutes to let him know. He came to our Tel Aviv house, on 16 Pilichovsky Street, and drove me quietly to the airport, to catch an overnight flight. My mission was to carry Ofair back to have the funeral in Israel. This was a memorable moment of a strong support, when I needed it mostly. I recalled how I had a window seat on this night flight through NYC, that lasted more than 18 hours. I was not able to sleep. I had been crying in a non visible way throughout the flight. I arrived in Ofer's rented apartment in Virginia and met Ronny and Daphna there. I plunged into the complex logistics of moving the casket and arranging the funeral. We were able to have at the end a most dignified in Kibbutz Einat. Efraim never missed the annual event of the Alyiah al Hekever since Ofair's death! This speaks volumes about his rather exceptional generous character.

Frank Knight is Right!

The new additions to the family, my grandchildren Iddo and Neeve, who live in London, are Really cute! I am telling myself that life has not been all bad for me, so far!!

Frank Knight (the great University of Chicago economist) put it succinctly when he said: "The Ultimate Difficulties of any rational reconstruction of society center around maintaining social continuity in a world where individuals are born naked, helpless, untrained and must spend a third of their lives in acquiring the prerequisites of a free contractual existence. The existing order, with the institutions of the private family and private property (in self as well as goods), inheritance and bequest and parental responsibility, affords one way for securing more or less tolerable results in grappling with this problem."

My aunt Gita Alexandroni, who is now the only person who can testify about how helpless and totally untrained I was when I was born in Kibbutz Shamir, when it was still in a temporary place near Kibbutz Ramat Yochanan, in 1941, and what was the role played by my father and mother (and by my aunt during my father's service in WWII) in my upbringing. But I have also traveled a long distance since then. At the age of 67, I still feel a bit like Bob Dylan (who is almost exactly my age) when he writes: "You think I'm over the hill/You think I'm past my prime/Let me see what you got/We can have a whoppin' good time".

Two Major Historical Transformations in Israel

Thinking about what my father witnessed in his (short) lifetime concerning the collapse of things he believed in, I should feel rather lucky. My father, and many in his generation, believed in Marxism, and the Soviet Union as its implementation on earth. To him this sets a good example as to where civilization is heading. But, according to the Black Book of Communism, published in 1997 by a group of French scholars, communist regimes were responsible for the "class genocide" of almost 100m people during the 20th century. Apologists for Joseph Stalin used to justify such brutality by arguing that you could not make an omelette without breaking eggs. But, as George Orwell once famously responded: where's the omelette?

It seems that the communist idea could never be successfully modified or revived.

Here is where I have witnessed some of my beliefs tested harshly.

Two of the Israel greatest institutions, the Kibbutz and the Israel Research Universities, most prominently Tel Aviv University, which during almost my entire life I have been affiliated with, are currently undergoing thunderstorms of major transformations. These changes are so fundamental that some say that the very principles behind them are being challenged.

Built to Last is the title of a best-selling management book that analyses what makes a company succeed over the long term. It also happens to two great institutions in Israel: the Kibbutz system and graduate economic departments, that unfortunately were not built to last. The Kibbutz system, a unique institution in the history of mankind, is now in the midst of an irreversible privatization process. The transition, as in the case of the collapse of communism in East Europe, is painful.

The transition to a private-property based economy in the Soviet Union started with Mikhail Gorbachev. In a series of remarkable statements and speeches in 1988, he threw out what Marx, Engels, Lenin and Stalin

had bequeathed over more than a century. Class struggle, the need for a violent revolution to overthrow capitalism, the state ownership of the means of production, distribution and exchange, all fell before what he called, in his great speech to the United Nations in December 1988, “co-creation and co-development”. He said the new world order would be driven by “the compelling necessity of the principle of the freedom of choice”.

The transition to a private-property based economy in the former communistic-economy of China has been long but relatively smooth process. On March 16, 2007 — after more than a quarter-century of market-oriented economic policies and record-setting growth, China on enacted its first law to protect private property explicitly. The landmark measure, which was delayed for years amid vocal opposition from resurgent socialist intellectuals and old-line, left-leaning members of the ruling Communist Party, is viewed by its supporters as building a new and more secure legal foundation for private entrepreneurs and the country’s urban middle-class home and car owners.

The transition in the Kibbutz economy to a private property based system is only in its initial stages. The beginning is full of difficulties. Many of the Kibbutzim are virtually bankrupt. Even in those that are not, there is no minimal pension system in place. Patched up benefits to retirees are even below the minimum wage. I am thinking about my parents (Kibbutz Shamir, where I was born, is still an exception). The “victims” in the transition process are typically the old. The system’s safety net, with defined benefits pensions, is emerging slowly, a bit too late to comfort them.

A defined-benefit pension system should be backed up by funding plans that are demonstrably capable of meeting the promise to pay the retiree certain fraction of her /his wage in most circumstances. We expect trustees to give the interests of the pension scheme their proper status: any shortfall must be recognized as a key material unsecured creditor of the business. In designing a pension system there are concerns of two types: the sponsoring employer is concerned that the pension rules may be too generous and as such will impose burdens on business; and the potential retiree’s concern is that the employer will not put sufficient cash outside the firm to be able to meet its obligation . There must be a Pension Regulator, which regulates the funding regime for any defined benefit firm pension scheme, be it in a Kibbutz, or in the rest of the economy. None of these exist during the present transition of the Kibbutz from collective system to a privatized system.

How lucky they are that they died before they had to see members of their generation fall into poverty because solidarity among members of the Kibbutz and egalitarianism vanish, while modern social insurance institutions are yet to be developed. The working age population, to a large extent, lacks skills necessary to rebuild decent rewarding life. A counter-factual in which I am still a member of the Kibbutz at an old age, makes me feel that I am lucky. I gave my children and grandchildren a more sustainable and rewarding way to live, than my parents gave to me. As I just said, a truly great Israeli institution, the research university, is currently enduring a big change and faces its biggest challenge ever. Main problems are the internal organization within the university, the inter-university allocation of funds by the state, and the lack of leadership on the national political level in regard to higher education. A grand coalition of politicians from the left to the right of the political spectrum, joined by vested interest groups within the academic institutions, block necessary structural reforms, by repeatedly raising equity, or student accessibility issues, for the wrong reasons. The case of providing large-scale subsidies to higher education, in the form of low tuition is dubious, because subsidies for higher education are fundamentally regressive. The vast majority of students in higher education belong to the richest half of the population. They can afford to pay real cost tuition. Low tuition does not entice them to attend the university, at all. In other words, low tuition amounts to a “pure rent” (in the economics jargon). The state does not provide the requisite funds (as Scandinavian countries do), or allow universities to charge realistic tuition (as the US universities do). The German-based model that Israel took on, of how to organize higher education and research, is an anachronism. We did not adopt the more successful US model (State as well as Private universities) that provides access to higher education to those who deserve it (poor and rich), provides salary incentives to faculty members to concentrate their intellectual energy on advanced teaching and research.

Brain drain from the Israel Universities is becoming widespread; especially in my field, economics. Perhaps, in my generation our identification with the life in Israel helped us to trade off a fulfilling life in Israel for better academic careers abroad. The fact that a group of us chose the same resolution of the trade off, and chose to be a full fledged member of the Israeli University, rather than be on the faculty of one of the top 20 US university, allowed our school to prosper, thanks to immensely successful academic interactions among us. This feature served as a magnet for young faculty members. I could not have asked for a better research interactions than the one I had in the Berglas School of Economics.

But this is not the case today. Our school is not able to get almost anyone who is academically successful abroad. To make the problem even more acute, it was enough that one prominent member of our school decided to pursue his own non academic agenda, in direct conflict of the school needs for resources, the recruitment of young faculty fields of teaching and research that the that dried up, that the positive interactions among members of the school had collapsed. The “bad blood” among us serves as a deterrent for young faculty members from joining the school. Existing members chose early retirement, some middle

aged active faculty turned to either successful business, or to policy making careers. The School of economics as we have known it over the last 3-4 decades is now virtually gone. Has it gone for ever?

The main reason for the success of the US-based research university Model lies in their superior organization. The first principle is that the government plays a limited part in the allocation of funds, which means the tuition and philanthropy are an important part of the funding, especially the teaching aspect of a University. The second principle is better incentives in the internal allocation of the budget among the different academic units, and differential salaries producing more adequate incentives. But the hurdles for a change in Israel are paramount. Political parties typically compete for the student votes, swing voters in national elections. This political setup does not allow top-up tuition. Self government by the academic faculty, coupled with a strong faculty union, are a barrier to the introduction of more efficient incentive system, which could have attracted young scientists with good academic alternatives abroad, by offering them better working conditions to compete with the working conditions offered by US universities. It seems to me that the decades-old era of the great Berglas School of economics at Tel Aviv University will have become a one-shot episode in history; unless the reformers on the national and university levels, could get its act together. I really hope I will have been proven wrong on this.

It is not likely that in the current higher education system Israeli universities will be able to recreate centers of excellence. Because to do this they will need greater freedom: for example to increase tuition fees and differentiate salaries in a new internal governance structure. Their governing structure will need to become more effective and less beholden to the union. On the difficulty of doing a substantive reform we can cite a quote from Machiavelli's book "The Prince":

"It must be considered that there is nothing more difficult to carry out, nor more doubtful of success, nor more dangerous to handle, than to initiate a new order of things. For the reformer has enemies in all those who profit by the old order, and only lukewarm defenders in all those who would profit by the new order, this lukewarmness arriving partly from fear of their adversaries, who have the laws in their favor; and partly from the incredulity of mankind, who do not truly believe in anything new until they have had an actual experience of it. Thus it arises that on every opportunity for attacking the reformer, the

opponents do so with the zeal of partisans, the others only defend him halfheartedly, so that between them he runs great danger.”

In this context I look at the way my son Ronny has been developing a splendid academic career (now tenured in LSE), as something that I would have liked to be doing in my time, had not the shape of Tel Aviv economics not been then so excellent in terms of its academic environment, with great colleagues, great students. Indeed, in the last two decades the Tel Aviv School of Economics was ranked at the top of non-US economics departments, along with LSE. But, currently, our school is dramatically deteriorating. A whole generation of top economists is stepping out, with no new academic staff with the same academic caliber in sight. No leader who can turn things around has emerged. Recently, my colleague, Elhanan Helpman, commented on the quick response of Hezbollah, immediately after the recent Lebanon war ended, where they started to give money to refugees to rebuild their homes, which were severely destroyed in the month-long war. Hezbollah has been the fastest and, without a doubt, most effective organization doling out aid to the shattered towns and villages of southern Lebanon. In contrast, the Lebanese government which already secured grants from rich Arab countries and from Europe and the USA was not even in the planning stage of the reconstruction effort. This shows how a small and dedicated number of people with great motivation can always outperform governments manned by officials without the right motivation. This is in analogy to what we have had in the Department of Economics in Tel Aviv University. At the initial stage of its development (I was the chairman in 1974 to 1976) we had a group of well motivated members (Elhanan Helpman and Efraim Sadka among them, together with a good leadership from Eitan Berglas, who was older than us) that cared about recruitment of new members, promotion, research facilities and research centers, etc. Today, with all these facilities already in place, governed a bit mechanically by members of the new generation that lack similar motivation, the crisis in the system gets no constructive response from its officer holders.

The Never-Ending Military Conflict

The Israel-Arab conflict occupies my thoughts almost from birth. When I was young I was always optimistic about the prospects for some resolution of the conflict. But as I grow old I am more pessimistic. This is how the Economist describe it:

"After the ignominious defeat of 1967, the Arab states again rejected the idea of peace with Israel. That was, indeed, a wasted opportunity. But even though the Israel of 1967 discussed how much of the West Bank it was ready to trade for peace, the Likud governments of the late 1970s and 1980s wanted it all. For Israel fell in love with the territories it had occupied. This was the period of Israeli rejection. Israeli prime ministers such as Menachem Begin and Yitzhak Shamir asserted a God-given right to a "greater Israel" that included the West Bank and Gaza Strip, in which Israeli governments of all stripes continued to plant (illegal) settlements. In some Israeli minds the Palestinians became a non-people, to be fobbed off with self-government under Israeli or perhaps Jordanian supervision. It took an explosion of Palestinian resistance, in the *intifada* (uprising) of the late 1980s and the far more lethal one of 2001-03, to convince Israel that this was an illusion."

As an economist I tend to view the conflict between the Israelis and the Palestinian as a Prisoner's Dilemma game.

The prisoner's dilemma game was popularized by a simple story. Two men are captured by the police and separately offered the same plea-bargain: "If you confess and he doesn't, you walk free; if you both confess, you'll both get five years; if neither of you confess, you'll both get one year; if he confesses and you don't, you'll get 20 years." Rational prisoners will confess, wishing there was a way to commit each other to silence. The equilibrium outcome is much worse than if the two prisoners would not confess; and get one year in prison. But each player, taking the strategy of the other player, has an incentive to deviate from this equilibrium because it looks to him/her that by confessing, while the other player doesn't, he/she can walk free. Game theorists have known since the 1950s that when the prisoner's dilemma is repeated indefinitely, more cooperative strategies can flourish. Most important, the "prisoner's dilemma" is merely a two-player game. This is a crucial omission. Most social arrangements stand or fail with the help of third parties.

A keen observer of the global conflict, Anthony Cordesman, writes: "It is now all too clear that the war of attrition between the Palestinians and Israel that began in September 2000 unleashed a "war process" that will be difficult to turn into any kind of peace

process for years to come. The death of Yassir Arafat clearly solved nothing. The weak, corrupt and divided Palestinian Authority he left behind cannot be fixed by a handful of good leaders. Hamas may not reflect a Palestinian majority, but it and the Palestinian Islamic Jihad have much better internal discipline and are widely seen as an alternative to a hopeless peace process.”

For many of us who have lived in Israel from birth, there was a grim awakening, after Yassir Arafat rejected the only feasible solution offered by Bill Clinton for the decades long conflict. Arafat not only rejected the peace proposal, but he also started the second Intifada. First by proxies, such as Hamas military wing; and then by his own PLO militia.

For most of my adult life I have been involved in trying to push our own government towards accommodation with our neighbours. I have been always against the occupation of the West Bank. I was active as one of the leaders of the then emerging “Peace Now” movements in the 1970s. Indeed met in 1990 the PLO leadership in a Dutch town Nijmegen, when meeting a PLO leader was outlawed in Israel. We bypassed the law by meeting them in a group; like in any academic seminar. When the Oslo peace track started, followed by both sides, the Israelis and the Palestinians, I remember how hopeful I became. The most difficult conflict is now moved into a “peace process”. I will see peace in my life; an almost like a dream comes true.

Intellectually, I feel now a bit guilty of the fact that I ignored in the way my political thinking evolved, almost completely, one aspect of the complexity of the Israel Palestinian conflict. That is, the inability of the emerging Palestinian Authority to create democratically run institutions, such as one army under well structured civilian control, checks and balances, well functioning and transparent institutions, etc. Once you build such an institutional set up it is very difficult to allow yourself to resort to war, rather than peace.

Arafat’s leadership in the period of transition from the diaspora to statehood was nothing but a disaster to his own people. Because he made himself a dictator who pursues his

own agenda, which never focused on bread and butter issues such as improving the well being of his own society. He was unwilling to confront the growing opposition to peace by the Hamas. He was making strategic miscalculations because he surrounded himself with only yes men.

In a sharp contrast, remarkably, successful, transparent, and democratically run institutions were built in the then Palestine by the Jews, when Israel has emerged as a sovereign state from its war of independence in 1947-1949. This is in my way of thinking, the “secret” of Israel’s remarkable development in years to come; a performance which is almost unmatched by the new states that gained independence since 1949 for a country constantly at war with its neighbors.

I took the Israeli experience for granted; as something that every other society, including the Palestinian society, which faces similar challenges, would do. Especially because the Palestinians had such a favorable initial conditions: the support and advice of most of the civilized world around them. But the Palestinians failed so miserably to meet the challenge to peace by the Hamas, in their own backyard. My optimism throughout most of my adult life about the possibility of reaching an end to the conflict sadly evaporated. Peace, it now seems, will come during my children’s life time, not mine.

The phenomenon that I am passionate about my research subjects and related policy issues, such as the collapse of the Kibbutz system, could be illustrated by the following story (told by the archeologist Magen Broshi). Herod, born in the 72 B.C. (one of the greatest builders in human history) was mentally ill. This has long been recognized by historians. A king who murders three of his sons, his beloved Hasmonean wife, Mariamne (whose death sent him into a deep depression), and countless other members of his close circle, is obviously not in his right mind. Now fast forward 2000 years. Walking down the street, the archaeologist Pesach Bar-Adon (whom I remember from the days I was recovering from a bullet wound shot, after my release from the army, preparing to take the matriculation exam to enter the Hebrew University) bumped into a colleague, the historian Abraham Schalit. Schalit told him he had just come from Prof. Lipman Heilprin, a famous psychiatrist, who said something about a clear case of

paranoia. Bar-Adon, assuming that Schalit was talking about a family member, tried to console him. There are all kinds of therapies and medications today, he said. But Schalit was talking about Herod.

The transformation in our economic way of thinking as a profession, in the aftermath of the great recession of 2007-2009, has been unprecedented.

Paul Krugman calls the first decade of the third millennium, "The Big Zero". Here is why. "It was a decade with basically zero job creation. O.K., the headline employment number for December 2009 will be slightly higher than that for December 1999, but only slightly. And private-sector employment has actually declined — the first decade on record in which that happened.

It was a decade with zero economic gains for the typical family. Actually, even at the height of the alleged "Bush boom," in 2007, median household income adjusted for inflation was lower than it had been in 1999. And you know what happened next.

It was a decade of zero gains for homeowners, even if they bought early: right now housing prices, adjusted for inflation, are roughly back to where they were at the beginning of the decade. And for those who bought in the decade's middle years — when all the serious people ridiculed warnings that housing prices made no sense, that we were in the middle of a gigantic bubble — well, I feel your pain. Almost a quarter of all mortgages in America, and 45 percent of mortgages in Florida, are underwater, with owners owing more than their houses are worth.

Last and least for most Americans — but a big deal for retirement accounts, not to mention the talking heads on financial TV — it was a decade of zero gains for stocks, even without taking inflation into account. Remember the excitement when the Dow first topped 10,000, and best-selling books like "Dow 36,000" predicted that the good times would just keep rolling? Well, that was back in 1999. Last week the market closed at 10,520."

From my own intellectual world as an economist, though, I was not shocked. I never prescribed to Ed Prescott's Real Business Cycle

Theory; the dominant paradigm in macroeconomics in the last 20 years. According to RBC theory, business cycles are exclusively the result of productivity shocks, positive or negative, in that they do not represent a failure of [markets to clear](#), but rather reflect the most efficient possible operation of the economy, given the institutional structure of the economy. **They have no room for failures in the financial sector, with consequences to and feedbacks from the productive sectors. It was the non market clearing in all sectors, with financial intermediation at the center, which epitomizes the recent crisis.**

Multiple Careers vs. a Single Career

I have had opportunities to switch career in three junctures of my life. At the age of 38-45 I had an opportunity to move to policy making career, or politics. I was the chief economist to the Israeli government when I was 38. At this point, Israel economy was in a big crisis and highly educated economists were on demand by both coalition and opposition parties. At the age of 50 to 60, I could have developed a career in academic administration; either as a president of one of the Universities; or as a Rector of my own University. At the age of 60 to 65, I could have developed a career in business on boards of directors. At those junctures of my life I always decided to stick to my academic career. Looking back I am blessed in the fact that I was not tempted to leave academia.

[The contrast to the career path of the leading economist Larry Summers cannot be more sharp. At age 55, Larry Summers has already finished his first four careers. A swift rise to tenure at Harvard-career one. He then moved to a high policy making role in Clinton's first term; promoted to deputy Treasury secretary; and in the last year of the Clinton presidency became the Treasury secretary: career number two. Career number three is in academic administration; the president of Harvard. After a rocky five-year tenure, he starts the fourth career path: back to economics with a lucrative part-time job at a big hedge fund, D.E. Shaw. Currently, in the Obama administration he is the top economist.]

I cannot of course compare myself to people like Larry Summers in terms of intellectual capacity; he is one of a kind. In terms of my own sphere of opportunities, though, I am glad I have stuck to the academic economics career path.

After Words

“Happy families are all alike; every unhappy family is unhappy in its own way.” This is how Lev Tolstoy begins in Chapter 1 of *Anna Karenina*.

Are we a happy family? We had our tragedy when Ofer, our oldest son, acquired a unimaginable debilitating and cureless disease; and passed away at the young age of 30. For this we are of course an “unhappy family”, in our own unique way. Perhaps the way we bounced back to be optimistic in our outlook, at least me. But, with regard our children, Ronny and Einat, and our grandchildren, Iddo and Neeve, we are a “happy family”, but contrary to Tolstoy, somewhat distinguishable from many other happy families.

Nearly everyone has been stung by an insect at one time or another. It is an unpleasant experience that people hope not to repeat, but for most people the damage inflicted is only temporary pain. [Stinging insects are limited to the order Hymenoptera, which includes wasps, bees, and ants. The stinger is a modified egg-laying apparatus; so, only females can sting.] When Ofer’s MS disease got worse, we heard about a possibility that the bee venom could help. We used to drive south of Alexandria, Virginia, to get Ofer get stung by captured bees, for training. Then, we got shipments of stinging bees by mail, and Ofer learned to perform the stinging therapy on himself. It did not help much. Now, fast forward by 8 years, I was riding on a double-decker bus in London with my grandchild, Iddo, who was then only 6 years of age, in the company of Joe, his classmate,

and and Raffie, Joe's brother. I overheard Iddo telling his young friends of the bee stinging story. I felt like I have been suddenly linked to my cute grandchild, through Ofer's heroic struggle story, in the most intimate way. In the memorial we have been doing annually on dec 16, 2008, I "recruited" the 8 year old Iddo to play the Beatles' song, Eleanor Reagby, for us, family and friends who gather in the cemetery of Kibbutz Einat. Iddo instantly became a close friend.

My granddaughter Neeve, who is now at the age of 3, is also a partner for interesting conversations.

We are a lucky family after all.

Great Jewish People: fascinating anecdotes from books I read and Stories I heard

Shi Kefa (1601-1645 CE), he came from the Shi family of Kaifeng (Capital of the Northern Song Dynasty) which was one of the seven Jewish families there. The names were assigned by the government, and Shi corresponds to Simon, so it must be something like 'Ben Shimon', in the beginning.

Shi was not only a brilliant general but also a great calligrapher. In fact, after his capture, the Manchus tried their best to offer him a high position with praise, but was firmly but civilly refused, and only for considerable time, the Manchus granted his wish to become a martyr, and established a memorial hall to honor his memory (See Attachment), in order to promote the spirit of loyalty in the entire Manchurian Empire.

Kefa in Chinese means, 'worthy to be emulated' since 'fa' means both emulation and the LAW. Kaifeng Jews were very observant in those years. Chinese record noted that in eating meat, they avoided the sciatic nerves for religious beliefs.

Without emphasizing the depressive aspects of his end, one can still feel that without understanding Massada (or what is mathematically 'the Josephus Problem'), one cannot gain complete insight regarding the Chinese historical record about Shi Kefa (History recorded, he chose to hurt himself, but stopped short of taking his own life, when his personal aides could not follow his personal instruction, and presumably his admiring captors satisfied his wish). This history has been conveyed to me by Henry Wan.

Lev Nussimbaum, a Jew, transformed himself into a Muslim prince and became a best-selling author in Nazi Germany.

Born in 1905 to a wealthy family in the oil-boom city of Baku, at the edge of the czarist empire, Lev escaped the Russian Revolution in a camel caravan. He found refuge in Germany, where, writing under the names Essad Bey and Kurban Said, his remarkable books about Islam, desert adventures, and global revolution, became celebrated across fascist Europe. His enduring masterpiece, *Ali and Nino*—a story of love across ethnic and religious boundaries, published on the eve of the Holocaust—is still in print today.

But Lev's life grew wilder than his wildest stories. He married an international heiress who had no idea of his true identity—until she divorced him in a tabloid scandal. His closest friend in New York, George Sylvester Viereck—also a friend of both Freud's and Einstein's—was arrested as the leading Nazi agent in the United States. Lev was invited to be Mussolini's official biographer—until the Fascists discovered his true origins. Under house arrest in the Amalfi cliff town of Positano, Lev wrote his last book—scrawled in tiny print in half a dozen notebooks never before read by anyone—helped by a mysterious half-German salon hostess, an Algerian weapons-smuggler, and the poet Ezra Pound. Told by Tom Reiss.

Moses ben Maimon—the RAMBAM (mimonides), 1135–1204, Jewish scholar, physician, and philosopher, the most influential Jewish thinker of the Middle Ages, b. Córdoba, Spain, d. Cairo. He is sometimes called Rambam, from the initials of the words Rabbi Moses ben Maimon. His organization and systemization of the corpus of Jewish oral law, is called the *Mishneh Torah* [the Torah Reviewed] and is still used as a standard compilation of [halakah](#). He also produced a number of discourses on legal topics; a work on logic; a treatise on the calendar; and several medical books, including an important work on hygiene. His great philosophical work is the *Moreh Nevukhim* (tr., *Guide for the Perplexed*, 1963), written in Arabic, in which he explained the esoteric ideas in the Bible, formulated a proof of the existence of God, expounded the principles of creation, and elucidated baffling metaphysical and religious problems. The *Moreh Nevukhim*, which reflects Maimonides's great knowledge of Aristotelian philosophy, dominated Jewish thought and exerted a profound influence upon Christian thinkers.

Moses Maimonides was a Renaissance man before there was a Renaissance: a great physician who served a sultan, a dazzling Torah scholar, a community leader, a daring philosopher whose greatest work—*The Guide for the Perplexed*—attempted to reconcile scientific knowledge with faith in God. He was a Jew living in a Muslim world, a rationalist living in a time of superstition. Eight hundred years after his death, his notions about God, faith, the afterlife, and the Messiah still stir debate; his life as a physician still inspires; and the enigmas of his character still fascinate. Told by Sherwin B. Nuland

Albert Einstein as a Zionist

Einstein had initially thought that his first visit to America might be a way to make some money in a stable currency in order to provide for his family in Switzerland. "I have demanded \$15,000 from Princeton and Wisconsin," he wrote his friend and fellow

scientist Paul Ehrenfest. “It will probably scare them off. But if they do bite, I will be buying economic independence for myself – and that’s not a thing to sniff at.”

The American universities did not bite. “My demands were too high,” he reported back to Ehrenfest. So by February of 1921, he had made other plans for the spring: He would present a paper at the third Solvay Conference in Brussels and give some lectures in Leiden at the behest of Ehrenfest.

It was then that Kurt Blumenfeld, leader of the Zionist movement in Germany, came by Einstein’s apartment with an invitation in the form of a telegram from the president of the World Zionist Organization, Chaim Weizmann. Weizmann’s telegram invited Einstein to accompany him on a trip to America to raise funds to help settle Palestine and, in particular, to create the Hebrew University in Jerusalem. When Blumenfeld read it to him, Einstein initially balked. He was not an orator, he said, and the role of simply using his celebrity to draw crowds to the cause was “an unworthy one.”

Blumenfeld did not argue. Instead, he simply read Weizmann’s telegram aloud again. “He is the president of our organization,” Blumenfeld said, “and if you take your conversion to Zionism seriously, then I have the right to ask you, in Dr. Weizmann’s name, to go with him to the United States.”

“What you say is right and convincing,” Einstein replied, to the “boundless astonishment” of Blumenfeld. “I realize that I myself am now part of the situation and that I must accept the invitation.”

One person who was not only astonished but dismayed by Einstein’s decision was his friend and colleague in Berlin, the chemist Fritz Haber, who had converted from Judaism and assiduously assimilated in order to appear a proper Prussian. Like other assimilationists, he was worried (understandably) that a visit by Einstein to the great wartime enemy at the behest of a Zionist organization would reinforce the belief that Jews had dual loyalties and were not good Germans.

In addition, Haber had been thrilled that Einstein was planning to attend the Solvay Conference in Brussels, the first since the war. No other Germans had been invited, but Einstein was (in the words of Rutherford) “for this purpose regarded as international,” and his attendance was seen as a crucial first step for the return of Germany to the larger scientific community. Told by Walter Isaacson.

Appendix: Writing Books: A family tradition that would be nice to keep

Books of my father:

1.



הוצאת ספרית פועלים

2.

מ.רזין:מפקדים ומגילות יחס ומשמעותם ההיסטורית לימי שאול ודוד חיפה תשל"ו

Books of mine:

1. Elhanan Helpman and Assaf Razin,

A theory of international trade under uncertainty

Academic Press, 1978;

This is how Elhanan Helpman describes the joint project which resulted in the book: “My first major project was undertaken jointly with Assaf Razin. We were both familiar with international finance and with international trade. We were puzzled by the fact that assets play important role in the theory of international finance but hardly any any role in the theory of international trade. Where this dichotomy comes from? We concluded that trade in assets may interact in an important ways with trade in goods and services. As a result it would be interesting to develop a theory that clarified these interactions. It should also help in the understanding of the effects of capital-market policies on trade in goods and assets.” The result was a series of papers which were synthesized into the book. One chapter of the book, chapter 11, which was not

published as a paper, became 30 years later the base line for the modern theory of international equity flows.

2. Jacob Frenkel and Assaf Razin, Fiscal Policies and the World Economy

MIT Press, 1987, Japanese Edition 1990, Spanish Edition, 1991,
Second Edition, 1992, Third Edition 1996;

3. Marc Nerlove, Assaf Razin and Efraim Sadka, **Population Policy and Individual Choice :**

A Theoretical Investigation, (Research Report/International Food Policy Research
Institute, 60) Paperback (June 1987), International Food Policy Research Institute;

4. Marc Nerlove, Assaf Razin, and Efraim Sadka

Household and Economy: Economics of Endogenous Fertility (Economic Theory
Econometrics, and Mathematical Economics), Academic Press, 1988;

5. Jacob Frenkel and Assaf Razin, Spendings, Taxes, and Deficits : International-

Intertemporal Approach (Princeton Studies in International Finance, No 63),
(December 1988) Princeton University, International Finance;

6. Jacob Frenkel and Assaf Razin,

Fiscal Policies and Growth in the World Economy: An Intertemporal Approach
1986, MIT Press;

7. Amnon Neubach, Assaf Razin, Efraim Sadka,

Israel's Economic Growth (Hebrew)

"Maariv" Publishing House, 1988.

8. Amnon Neubach, Assaf Razin, Efraim Sadka,

Challenges to the Economy of Israel (Hebrew)

"Maariv" Publishing House, 1990.

9. Jacob Frenkel, Assaf Razin, Efraim Sadka

International Taxation in an Integrated World

(January 1992) MIT Press;

The ongoing process of increased integration of national economies, culminating in the single European market of 1992, still leaves as virtually separate the national fiscal systems. In this book we provide a new treatment of international taxation, one that focuses on the interactions between fiscal policies of sovereign nations and the magnitude and directions of international capital and goods flow in an integrated world economy. They unfold a lucid and clear analysis of the implications of tax competition, tax harmonization, capital flight, external imbalances, and the terms of trade for the design of efficient national tax systems. The book reviews the principles of international taxation and international macroeconomics, analyzes the international transmission of various tax and budget policies, and provides a rigorous analysis of optimal open economy tax policy in an integrated world economy. Special emphasis is placed on the interdependence between direct and indirect taxes and on the international allocation of saving, investment, and production.

10. Assaf Razin and Efraim Sadka

The Economy of Modern Israel: Malaise and Promise

Hardcover (September 1993) University of Chicago Press;

The book covers the entire economic history of the state, focusing on links between Israel's economic growth, its integration into world markets, its tax and welfare systems, and the political conflicts in the Middle East. It presents the first detailed economic analysis of the Palestinian uprising, showing how the unrest has led to a fall in Arab employment in Israel and serious economic loss to the occupied territories with some loss to Israel. The book also examines how the uprising has affected Israel's financial standing internationally and the inflow of foreign aid. The book, written at the very start of the waves of immigration from the former Soviet Union, sees the long run promise for Israel's economy, despite the initial difficulties in absorbing the immigrants. The book flashes out the coexistence of a flourishing and highly competitive private sector with a relatively large public sector, which is undergoing privatization; and a tax structure that encourages long-term saving and business growth. By examining the interplay between the exchange rate, interest rates, and monetary and anti-inflation policies, the book investigates the possibilities for renewed growth and concludes, at the point of time it was completed, 1991, before the Oslo agreement and the peace with Jordan, that the future of Israel's economy crucially depends on serious efforts to secure peace in the Middle East.

11. Assaf Razin and Efraim Sadka

Population Economics (January 1995)

MIT Press;

In the book we analyze two family education -fertility regimes which we refer to as “children as capital goods” and “children as consumption goods”, respectively. The as “children as capital goods” regime means that parents treat their children as a “capital good” , bringing them up and investing in them with the goal that the children when they grow up will take care of their parents who reach an old age. This is a good model to analyze fertility choices in traditional economies (especially rural economies) where the so-called representative household has no good access to financial market in order to save for old age. Social security and public education do not exist. In the “children as consumption goods” regime financial markets are well developed and the government provides old age social security. Fertility decision is based on altruistic and kinship motives, predominantly. Parents, who are caring for the welfare of their children, bring out fewer children , but invest more in the education of each one of them. Children in this regime are costly, because of the high level of education invested in them.

12. Gian Maria Milesi-Ferretti and Assaf Razin

Current-Account Sustainability

(Princeton Studies in International Finance, No 81)

(November 1996) Princeton University, International Finance Section;

Two key questions that arise in macroeconomic policy analysis are whether a given level of the current account deficit is “appropriate” or “excessive,” and whether the current account balance is sustainable.¹ Researchers who try to quantify these concepts face several difficulties. Establishing whether a given level of the current account is excessive requires a model or a framework that can determine what the “optimal” or “appropriate” level of the current account is—clearly not an easy task. Defining current account sustainability is also a difficult endeavor: the current account is the quintessential endogenous variable, and it is determined not just by public policy but also by private agents' saving and investment decisions. Therefore, automatically extrapolating the current level of this variable into the future, in order to assess whether a country will be able to service its liabilities and/or secure access to external financing for future liabilities, is an exercise fraught with uncertainties. Notwithstanding the difficulties highlighted above, a substantial portion of research at the IMF on the current account has indeed focused on these two related questions of “optimal” levels and sustainability. Some other papers have instead studied current account determinants and responses to shocks in both industrial and developing countries. A literature review of the two research approaches is presented below.

13. Jacob Frenkel and Assaf Razin,

Fiscal Policies and Growth in the World Economy

2nd edition (1992) MIT Press

Third Edition, with the cooperation of Chi-Wa Yuen (October 1992)

MIT Press;

14. Assaf Razin and Efraim Sadka

Labor, Capital, and Finance: International Flows

Cambridge University Press, Paperback (September, 2001)

Chinese edition 2003

15. Assaf Razin, and Efraim Sadka,

THE DECLINE OF THE WELFARE STATE: POLITICAL ECONOMICS OF DEMOGRAPHY AND GLOBALIZATION

MIT Press, 2005.

In the coming decades, the population of the industrialized world is forecast to age dramatically. In the European Union, before the 2004 enlargement, old-age dependency, defined as the ratio of the population aged 60 and older to those between ages 15 and 59, is projected to rise from 35 percent in 2000 to 66 percent, in 2050. Within the European Union, aging is expected to be most pronounced in Germany, Italy and Spain, where this ratio is forecast to rise to 71, 76 and 81 percent, respectively, by 2050. Aging trends are almost as severe in Japan, where old-age dependency is forecast to rise from 36 to 70 percent over the same period. In comparison, the projected population trends in the United States look almost benign. The Census Bureau currently forecasts that the old-age dependency ratio will reach 47 percent in 2050, up from 27 percent in 2000. The aging of the population has far-reaching implications for national pension systems. In the continental Europe, most state pension systems are unfunded (pay-as-you-go systems) and the benefits are quite generous. This will necessitate a sharp rise in taxes if benefits are maintained largely intact. The O.E.C.D. predicts that France, for example, will have to spend 33 percent more as a share of gross domestic product than it does now. Similarly, the widespread low-skill migration also puts a strain on the public finances of the welfare state. Being relatively low earners, migrants are typically net beneficiaries of the welfare state, that is, they are expected to receive benefits in excess of the taxes (contributions) they pay.

16. Assaf Razin and Efraim Sadka

Foreign Direct Investment: Analysis of Aggregate Flows

Princeton University Press, October 2007

The traditional portrayal of international capital flows is hardly reminiscent of the FDI flows among developed countries, which are much larger than those from developed to developing countries. Although net aggregate FDI flows from, or to, a developed country is typically small, the gross flows are quite large. The flows among the developed countries mainly seem to reshuffle the ownership of productive assets, moving them to owners who want them more than their current owners and who are willing to pay the most for them. Presumably, capital flows move assets from less efficient to more efficient owners, or from owners who are technologically or commercially backward in their industries to firms that are technological leaders. In none of these cases do such flows necessarily change the location of the production, assets, or employment of these industries, though. There arises a question whether FDI plays any useful economic role except the mere shift of asset ownership. Similarly, in many cases FDI to developing countries is also merely a round-tripping of capital. Savers in a developing country which does not have developed and well-functioning saving and financial intermediation institutions export their capital to a location which specializes in exporting back FDI to this country (China and Hong Kong are a notable example). In this case too there arises the same question of whether this round-tripping of capital, which created no net import of capital, serves any useful economic role.

15. Assaf Razin, Efraim Sadka, and Ben Suwankiri

Migration and the Welfare State: Political-Economy Based Policy Formation

Unpublished Manuscript 2009

The Nobel Laureate economist, Milton Friedman, had it right: "It's just obvious that you can't have free immigration and a welfare state." That is, a generous welfare state would be under constant attack by the many would be immigrants who yearn for its many benefits. Sooner or later there be formed a political coalition in the welfare state that will either curtail its generosity or restrict in-migration, or both.

On the other hand, a welfare state, especially an aging welfare state, may welcome young and skilled migrants. Thus, the attitude of the native-born population towards migration depends on the skill composition and age distribution of the would be migrants; and migration policies may be "tailored" for different categories of potential migrants. Also, within the welfare state there is typically no consensus with respect to the generosity of the state. How these conflicts are resolved in a [political-economy set up]---this is the subject matter of the book.

ⁱ To read more about Hiro Uzawa unique history, see
<http://journals.cambridge.org/action/displayAbstract;jsessionid=E4AC668B7F2960725FA02689C137DE38.tomcat1?fromPage=online&aid=5593032>