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Learning from California: The Macroeconomic Consequences of Structural Changes

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Suddenly, something has gone very wrong with the California economy. To a far greater extent than reported in official and conventional analyses, the problem is structural -- not just cyclical. Consequently, a moderate national recovery will not translate into a comparable California recovery. Geographic trickle down will prove no more effective than the "supply side" trickle down America tried for the past dozen years. California's economy is performing far worse than the national economy and, as the U.S. recovers, albeit tepidly, from recession, California doesn't. Unemployment is almost one-third-again higher than the national average, and is likely to exceed 150% imminently.¹ Instead of adding some 250,000 new jobs per year as it did regularly throughout the eighties, California is losing jobs -- and not just low-end jobs -- in big batches, some 550,000 to 800,000 jobs² in two and a half years. Indeed, over 35% of total job losses in the United States between June 1990 and December 1992 were in California, and over 25% of the national job loss was located in the four contiguous Southern California metropolitan areas centered around Los Angeles.³

At one level, diagnosis of the California problem -- job loss -- is simple. Everything went wrong in the same place at the same time. Cyclical forces ranging from a seven year drought with severe economic consequences, through the US national recession, which hit California late but hard, through corporate downsizing and the end of the real estate boom, played a major role. So did structural or California-specific causes ranging from the out migration of jobs through severe cutbacks in defense procurement. This paper argues that official and conventional efforts to understand the problems of the California economy significantly underestimate the importance of structural changes, especially those related to cutbacks in defense spending. A major reason for this is the built-in tendency of macroeconomics to underestimate the macroeconomic impacts of structural changes. Structural change that has made California's recession both more severe and prolonged than the national recession.

California is the most important regional economy in North America. Its GDP makes it a G-7 nation.⁴ Big enough and, critically,

diverse enough to withstand the sectoral and cyclical shocks that beset most fast-growing regions, for decades California has been the very model of a successful and dynamic regional economy -- relentlessly growing faster than the national economy in which it is embedded. Of course the Golden State was rich from the very beginning, and it has stayed rich because it has always been more modern.

The importance of California is not only quantitative. In both myth and reality, California is the place that invents the future, and, of course, markets it to the rest of the world. As legend has it, if it is happening in California today, it will hit New York in six months, and London, Munich and Tokyo next year. The rest of the world dutifully follows the autonomous and incessant inventiveness of California in phenomena that extend from new products -- from plastic surf boards, to lap top computers -- through new organizations; from entrepreneurial high-tech firms to religious movements; new weapons; new fashions; and, most important, new attitudes and styles, including even entire "life styles" (itself a California concept). For Americans, California has been the ultimate and seemingly permanent expression of the American dream. And that "take," as they say in language-inventive California, has been shared by most of the world, often as dream, sometimes as nightmare, always as market.

During the late 1980s -- just yesterday by the rhythms of American academic publishing -- a substantial literature in regional science appeared to extrapolate, analyze and explain California's special success.⁵ The element most often singled out was its high-tech industrial base; California was not weighed down by the industries of the past like steel and autos with their flat or declining futures and their outmoded industrial and social practices. California's industrial base was built instead on advanced electronics, aerospace, biotech, and advanced services such as film making, music making, auto design, and software development. Even California agriculture had a strong base in advance technologies with its tight ties to the University. Californians had created a uniquely flexible economic and social system. It spawned high-tech entrepreneurship to route electrons and digital codes into new products and new applications. It could provide the entrepreneurial flair to take advantage of the cheap immigrant labor that poured across the Mexican border to produce apparel and furniture, and at the same time organize battalions of scientists for giant technology projects such as space shuttles, missiles and stealth aircraft. It has been, we are told, the special California culture, flexible, innovative, based on risk and fun, that provided the atmosphere out of which new demands would first be perceived and new organizations created to take economic advantage of those new demands that could not happen in more hide bound cultures that encapsulated other great economic regions like the Ruhr or Detroit or Washington. Californians were always starting out fresh. They had left the past behind. ⁶ They have now caught up with their future. And for the first time in memory, the California future looks worse than the California past.

1. 1,2,3 Californias

Economically, as well as culturally and politically, California divides rather neatly into three distinct zones: the Central Valley, Northern California (the San Francisco Bay Area), and Southern California, centering around the Los Angeles basin and sprawling down to the Mexican border.

The Central Valley, Steinbeck country, has its economic base in agriculture, with over half the state's agricultural jobs (167,000) and 80% of food processing jobs (40,500).⁷ It is the smallest of the regions, and is growing rapidly in part through "spillover" growth of jobs and housing from the Bay Area. Although the Central Valley currently suffers from high unemployment rates, it has absorbed only about 1% of the state's substantial job losses since 1990.⁸

Northern California circles the San Francisco Bay with San Francisco as its traditional center through San Jose, some forty minutes down the freeway (at night) has now grown larger than San Francisco. Between them stretches Silicon Valley, with some quarter of a million high-tech based jobs. The Bay Area economy has been growing faster than the rest of the nation for several decades. Its success has been based on those high-tech industries as well as financial, and international services. Its high-tech base is dominated by its two great Universities, Berkeley and Stanford, and their offsprings of young companies, mostly in electronics, which typically began as venture firms. Silicon Valley counts well over two thousand such firms at any given moment. Some of them, such as Hewlett Packard, Intel and Apple, have grown quite large but the Silicon Valley culture and industrial structure is still that of a community of smaller, entrepreneurial firms. It is the symbolic antithesis of an economy dominated by a few large employers, with a monocultural industrial base. The pace of innovation and the creation of new firms remains lively. Northern California is now the world's leading center for biotech start ups. But it is neither immune to fierce competition from Japan and the Pacific nor recession proof. Its high cost structure puts it at a great disadvantage, not for start ups, but for job creating expansions of firms. Its share of total California job losses is about 14%, while its share of California's employment base is about one fifth.⁹

Finally there is Southern California, four Standard Metropolitan Areas (MSAs) centered around Los Angeles and extending down the coast to the Mexican border. It contains about half of California's 30 million people, a bit less than half of California's officially counted 13 million jobs, and about eighty percent of California's job losses.¹⁰ One very big town, metro Los Angeles accounted for over half the state's job losses between 1990 and 1992 but over one fifth of the national job loss.

2. Los Angeles on the nature of the economic decline in California

Los Angeles makes myths, music, movies and missiles; together they dominate the world. But the missiles dominate the LA economy. Of course, as in all modern metropolitan areas, service jobs in health, education, FIRE (finance, insurance and real estate), and retail trade, etc., provide the vast bulk of employment. But it is Los Angeles, not Detroit, that is the biggest manufacturing center in the U.S.¹¹.

The economic base¹² of Los Angeles is dominated by four major sectors: (1) Real Estate and Construction, (2) Light Manufacturing, (3) Advanced Services and (4) High-Tech and Aerospace (including military industrial firms).

(1) Real Estate and Construction. Real estate was LA's first industry, its first export product. In 1870 the population of Los Angeles was five thousand; today it is well over ten million.¹³ The first folks out drew lines on the ground, printed brochures about the new paradise, and sold lots to the next arrivals, who conveniently came with money. They, in turn, sold lots to the next, and so on, and all prospered, albeit unevenly. Today over 55,000 people are employed in the real estate business; promoting and processing transactions. Construction is the next step. It employs about 110,000 people.¹⁴ This sector, as we will soon see, is severely depressed, and will stay depressed for several years at least.

(2) Advanced Services. LA, like the other great world metropolises, is a center for advanced and high-end services, especially, finance, law, international business, and corporate control. It is America's second financial center, though well behind New York. Los Angeles also has some economic specialties all its own in high-end services. First, of course there is the entertainment industry. LA is the unrivaled world capital of The Entertainment Industry. The motion picture segment alone employs about 100,000 people. It is also the world's capital for the music business and for television. And each of those segments generates a broad range of high value-added services that stretch from costume design and sound engineering through deal making, subsidiary rights negotiations, talent agents and particular kinds of intellectual property definition and protection. LA is also a major world design center, for a host of goods ranging from swim suits and clothing through automobiles for producers from Japan as well as the US. This complex sector of advanced producer services is in perfectly fine shape and continues to play a major role in supporting the LA economy.

(3) Light Manufacturing. Light manufacturing -- furniture, apparel, textiles and printing -- occupies a substantial place in the Los Angeles economy. Apparel dominates this sector, 100,000 Los Angelenos earn their living, often meager, in the garment trade, making Los Angeles a major American garment center. Furniture production is another large sub-sector, employing some 25,000 people, while printing and publishing, as would be expected in a world commercial metropolis, is a major employer of some 55,000 people, about half of whom are in commercial printing, tightly connected to advertising and multifarious

hype. Statistics on light manufacturing in Los Angeles are probably the least reliable of the various categories of employment, reflecting the industry's tight connection to the City's large immigrant population, both legal and illegal, and the new social structure of LA.

(4) High-technologies and Aerospace Industrial Complex. Los Angeles is also the "aerospace capital of the world"¹⁵. Beginning well before World War II, Los Angeles began to work at making itself attractive to the Big Casting Director at the Pentagon. The creation of Caltech, which differed from other universities in its focus on science that had definite military potential, and its innovative tight relations with the Military (and then NASA), was a major building bloc. It paid off for LA, in a big way. In the phrase of Mike Davis', stimulating book about L.A., "Caltech, together with the Department of Defense, substantially invented Southern California's post-war science based economy"¹⁶. Los Angeles has continued to develop its primacy in Aerospace and Industrial Military firms. It is the site of the prime contractors for stealth aircraft, space shuttles, Trident, Midgetman, and various cruise missiles, as well as the advanced electronics, location guidance, detection and communications systems that add value to those flying platforms.

LA is America's most important manufacturing center, and aerospace is mostly what they make. Writing in 1990, regional planners Peter Hall and Ann Markusen remarked "there is as yet no sign that the region (Los Angeles) has lost the creativity, the innovative capacity, that was the basis of its meteoric industrial rise to become the aerospace capital of the world".¹⁷

In corporate organization, industrial behavior and, crucially, the structures and dynamics of their markets, high tech in Los Angeles is quite different from high tech in Northern California. In terms of industrial structure, LA high tech is overwhelmingly dominated by giant, DOD prime contractors: Rockwell, McDonnell Douglas, Hughes Aerospace, TRW or CalTech itself (with a regular inflow of over \$1 billion in prime contracts). These firms have a particular organization and conduct. They do project, or mission, research and development. Speed to market, low cost R&D and low cost production are not top priorities, and are not particularly present. But fastidious bureaucracy is. The prime contractor firms have created their own internal bureaucracies and procedures that match -- as they absolutely must -- those of the monopsonist buyer, the Pentagon.

In Northern California, the market structure for high technology is quite different. With a few notable exceptions (Lockheed, FMS and Ford Aerospace) high-technology industries are commercial; markets are competitive; entrants are many and swift; foreign competition (from Japan and the Pacific basin) is brutal, prompt and sometimes devastating. There are no monopsony buyers, no dominant buyers. The "Founding Myths" in Northern Californian differ from those in Southern Californian high tech: down South it is the Manhattan Project and Man on the Moon -- heroic and gigantic missions marked by truly vast mobilizations and organizations of scientific resources; up North, it

is Steve Jobs creating the personal computer in his garage -- small scale, entrepreneurial, market driven. Firms are self-consciously non-bureaucratic in their organization, and strive, sometimes in almost comical ways, to avoid the reality and appearance of bureaucratic organizations in their behavior. Turnover of product, technology, personnel and firms is substantial and rapid.

High Tech in Southern California is in trouble, and so, therefore, is California. The preliminary diagnosis is simple. Defense spending in California has fallen, from a high of about \$60 billion at the height of Star Wars in 1988 to about \$51 billion in 1992 (inflation adjusted)¹⁸. That decline was concentrated in Southern California, and it is continuing, with no end in sight.

3. The 1980s "A Golden Age": A Review

The 1980s were years of rapid growth in jobs, population and asset values for California in general, and for Southern California in particular. About one fourth of the total national population increase during the decade of the 1980s, some 4.8 million people, took place in California, mostly in Southern California; that proportion rose to about one third for the period 1983 and 1990. During the eighties, the California economy added, about one quarter of a million new jobs per year, year after year. Real Estate values soared: the median price of houses sold in Los Angeles rose from \$119 thousand in 1982 to \$215 in 1989.¹⁹ Adjacent Orange country experienced a very similar increase. In the judgment of regional economists Allen Scott and Alan Paul, the 1980s were "a golden age for the Southern California economy." They neglected to note that so were the 1940s, 1950s and 1960s. Golden ages are nothing new to California; what is interesting is the comparison among them.

As California golden ages go, the 1980s had a distinctly bronze bottom. Because as population, employment and asset values increased, real average wages did not. Across the entire decade, from 1980 to 1990, average wages did not rise more than consumer prices, so that adjusted for inflation, average wages, both in California as a whole, and in Los Angeles, actually fell slightly, about one half a percent.²⁰

The population influx was not the motor of growth. nor even of the dramatic rise in real estate values during this period. Growth was motored by an influx of money, not people, and the impetus influx came from the Pentagon and Real Estate investments.

Defense spending rose rapidly during the 1980s from about \$30 billion in 1982, to about \$60 billion in 1988²¹, and almost three quarters into the four Southern California MSAs²². Employment in industries dominated by defense contractors soared, from to 600,000 in 1980 to 720,000 in 1989²³, and we should note, that employment in Defense dominated sectors pays far more than average wages in

manufacturing, let alone services. Average weekly wages in Aircraft and parts in LA region came to \$729.10, while average wages in manufacturing were \$463.5024. An increase in Aerospace employment in LA has, therefore, a much more important multiplier effect on the economy, than a comparable rise in general manufacturing or services. So as we will see, does a decline.

Real Estate, prompted by changes in tax laws, quickly responded accelerating the boom. Demand began to spin off from the defense build-up quickening the pace of new construction and transferring substantial portions of the new money into rising prices for houses. Then Construction spending took off on its own, beyond the pull of demand. It was pushed by floods of new money that began to pour into Los Angeles, as it so often has. Real Estate became a second, quite independent river of funds into LA. It itself had several tributaries. The Savings and Loans system shoveled money out the door into ambitious new construction projects, and LA got more than its share of this new form of creative spending. Beginning in the mid-eighties, Japanese investors burdened with vast quantities of strong Yen bellied up to the table and paid for yet another round of construction of prime office and commercial space. By the end of the eighties Los Angeles had become the prime locale for fresh Japanese investment in US real estate. Official statistics show Japanese ownership of California real estate rising from \$5 billion in 1987, to \$6 1/2 billion in 1988, to \$10 billion in 1989 to \$13 billion in 1990 and to \$18 billion 1991.²⁵ Note this is ownership, distinct from bank mortgage loans. California also became the prime locale for Japanese banks with their coffers full and interest rates low back home, to compete, with their weaker American rivals, by aggressively pricing and financing real estate loans to buy market share. They got it, faster than Toyota. Unofficial sources have it that Japanese banks originated more than half the commercial real estate loans in California during the years 1989-91. Fresh money also flowed in through overseas Chinese networks in significant amounts. But as it tended to come through family networks, and typically in smaller chunks than the Japanese corporate placements, it seems to have completely escaped tabulation by U.S. government statisticians.

The impact of these diverse flows of new money for construction was impressive. Employment in construction rose from about 350 thousand at the trough of the 1982 recession to 650 thousand by the end of the decade in the State. And in California, construction, especially in the office segment, pays well: construction in general pays 160% of the average LA manufacturing wage.²⁶ Employment in real estate in California, that is in the promoting and processing transactions, soared: from about 125 thousand at the beginning of the decade to about 205 thousand at the end of the decade.²⁷ Perhaps the best and most impressive measure of the boom in new construction of commercial properties is the inventory of office space in LA County and adjacent Orange county, which rose from 67 million square feet in 1980 to 252 million sq. feet in 1991, and price in office rose from \$234 in 1985 to \$303 in 1990.²⁸

The selling price of the median existing single-family home in Los

Angeles rose from \$119,260 in 1982 to 215,000 in 1991 (an increase that was itself not much smaller than the total price of the median house in the Mid West or Texas at the end of that decade). The production of new housing units exceeded 200,000 every year from 1984 to 1989, topping 315,000 housing units in 1986. The rapid rise in housing prices-in its turn, generated a dramatic increase in household wealth, at least perceived wealth. The LA habit of rapidly trading up, from house to house, or refinancing, to draw spendable money out of real estate appreciation, plus of course, the spurt in new construction, spilled over throughout the economy.

During the late eighties much was made of the growth of financial services in Los Angeles and the shift of finance jobs out of San Francisco, California's traditional center for finance, for consolidation in the larger LA market. These moves generated more headlines (mostly in San Francisco) than jobs in LA.²⁹ But jobs were added and with them a new definition of LA, as the Capital of the Pacific Rim. For during the eighties LA emerged not only as the leading California center for financial services, but as the rapidly rising number two in the US, and as a major world center for extremely innovative and mega-scale finance for national corporations. LA's share of origination of major corporate financing showed an incredible rise, but behind the statistics lay not so much the rise of a new financial center, but the meteoric rise of one firm, Drexel Burnham, and its leader, Mike Milken, who created and ruled the junk bond market. During the eighties, Drexel more than boomed; it went, as they say in LA, "off the charts", and the money sloshed through the LA system, beginning with Mr. Milken's own annual income of over \$500 million. A good chunk spilled out of Drexel's fancy headquarters in Beverly Hills onto local construction and services.

Light manufacturing was an obvious beneficiary; new construction and housing turnover generated a sharp increase in demand for household and office durables such as furniture. And the LA furniture industry boomed. The rapid growth in light manufacturing was taken by many as an indication of the extraordinary flexibility of the LA economy and system of social organization.³⁰ The furniture industry combined local demand, local entrepreneurship and immigrant labor to create thousands of low end jobs. The LA furniture industry boomed. Employment rose from about 33 thousand in the trough of the 1982 recession to about 43 thousand by 1988.³¹ Employment in apparel also spurted, rising from about 75 thousand officially counted in the early eighties, to about 100 thousand by the end of that decade. And so did printing, it grew from 60 thousand to over 70 thousand during the 80s. Light manufacturing provided a strong case of the possibilities of creating new jobs, in new industries, for new classes of people, especially all those poor and low-skilled immigrants from Mexico. They kept pouring in, in unstoppable streams. The garment industry expanded on a similar base, compounding the employment effects, and compounding also, the dual wage, dual society structure that so rapidly developed in Southern California during the 1980s. Wages in apparel are about one third of aerospace wages, and furniture about one half.³²

4. The 1990s

LA ended the 80s rich, proud and confident of its unique, innovative prosperity, its ability to absorb newcomers from all over the world, and of its technological and creative prowess. In March 1990, The UCLA Business Forecast for California began with the heading "near term outlook remains good.

The 1990's --thus far -- have not been kind to LA; and the near future does not look much better. California, but essentially Southern California, is seriously under performing the US economy. This is out of character. Typically California outperforms the US economy. Income rises faster. When recession hits, California recovers faster. This time it is recovering -- if it is recovering at all -- far slower (See Table 1 and Chart 1).

And the key indicator of underperformance is job loss. It is not just an economic fact; it is a political fact.³³

Cyclical factors and forces experienced by the whole nation: -- the U.S. recession, corporate downsizing, the end of the great real estate boom -- combined with structural, or California specific factors -- such massive defense cut backs and shifts -- hit California at the same time. But this all encompassing observation obscures as much as it explains. Because the crisis of California, which is essentially a crisis of southern California, is most fruitfully understood in structural terms. Let us first review, quickly, the different forces at play, and then focus on the structural elements.

4.1. Cyclical or National Factors

(a) The Recession

The national recession hit California late. It did not just descend uniformly on the country, but made its way around, like a flu epidemic, from region to region. It is responsible for the largest part of California job loss. The State Commission on Finance attributes about 50% of job loss to the recession;³⁴ as will become apparent below, we find this figure to be too high.

(b) Corporate Downsizing

Intellectually quite distinct from a traditional recession, but certainly part this recession is the national (or perhaps world scale) morphological phenomenon conventionally called "corporate downsizing". Companies are reducing employment, but not in traditional, temporary "lay offs", with expectations of rehiring once business conditions pick up again. This time expectations for rehiring are feeble to nil.

Companies are reorganizing to shed staff permanently. The Fortune 500 companies employed about 19 million in 1982; by 1992 they employed about 12 million and the downward trend is continuing. Behind this strong trend is a confluence of diverse forces: companies that lost market share and margins to foreign competitors, a la GM; companies that suddenly found their industries "deregulated" such as airlines and utilities; companies involved in major consolidations, such as Bank of America and First Interstate Bank in California, that resulted in the elimination of thousands of positions in California's financial sector; companies that suddenly lost profitability in key segments of their market a la IBM. But the tendency is also manifest in companies whose sales are not contracting, and are doing quite well. Some companies are replacing regular employees with temporaries, or sub- contractors that pay lower wages and often no fringes. But more fundamental changes seem also to be at play. It appears, that we are now beginning to experience the long awaited productivity payoff for information technologies which, only when coupled to concrete reorganization of the production process and the corporate organization, seem to permit of a good deal of "jobless recovery" and perhaps "jobless growth".

(c) Real Estate and Construction

The real estate bust is another localized impact of a national (or world cities) phenomenon. After the great late 'eighties boom' in commercial real estate values and construction activity, the bubble burst and both indices crashed. In LA's central business district, average prices paid for commercial property fell from about \$300 per sq. foot to under 200 per sq. foot between 1990 and 1992; and they are still falling. Rents followed a similar path.³⁵ Even the value of houses, after nearly doubling between 1982 and 1991, turned and have begun to decline; the decline seems to be gathering momentum. The median price of houses sold in LA in the first quarter of 1993 was more than 5% lower than in 1992.³⁶ Employment in construction (a high multiplier sector) plummeted: from 154,000 in 1990 to 100,000 in the first quarter of 1993, and is continuing to fall.³⁷ And as the pipeline empties there is little reason to expect a sudden improvement. By 1992, the value of new building permits was down to about 20% of the 1989 level.³⁸ Vacancy rates are above 20% in LA, and San Diego.³⁹ The bursting of the real estate bubble is not particular to California. Comparable implosions have hit London, New York, Dallas, Connecticut, Paris, Madrid, etc. We can consider it part of (inter) national level, cyclical, forces.

4.2. Structural or California Specific Factors

(a) The out-migration of jobs and the in-migration of poor people

Much is being made in California about an exodus of jobs to other American locations and to Mexico as a result of California's oft-criticized high cost, high regulation business environment.

The out-migration of jobs takes two distinct forms. The first, simplest, most dramatic, but smallest, is when companies move out of state. The second, is when California companies expand and add new facilities, typically large factories, outside of California. It is more important. The latter migration accounts for the big numbers of jobs. But these are difficult to count in fundamental, not just tracking ways. Out-migration of that sort is, of course, nothing new to the California economy. One could guess that perhaps most of the many high-tech jobs created in Singapore between say 1975 and 1985 were directly transferred (or induced by transfers) from Silicon Valley and a few other US high-tech locales. High cost, innovative locales typically and classically incubate new products and processes. Then scale ups transfer to lower cost locations, in their nearby hinterland, then further afield. The classic formulation of this "product cycle theory," which is a pillar of regional analysis was made by Vernon and Hoover, in the 1950s for the New York Regional Plan.⁴⁰ Out-migrations, of labor intensive, or pollution intensive activities, as well as major manufacturing expansions are part and parcel of the dynamic of a rich and innovative economy; they will not, and should not, cease.

Nonetheless, there are indications, - however suspect the data -- that something new is going on, and that it might have negative and significant impacts on the California economy, especially in the Los Angeles region.. Studies based on analysis of 1035 documented cases of business migration from California over the past decade estimate job loss between 168,000 to 224,000.⁴¹ Mexico received over one fourth of those cases. Analyses point to the obvious factors: environmental regulations in the LA basin that simply shut down certain kinds of industrial processes; high overhead costs such as workers compensation which costs 3 times as much as in neighboring Oregon, or litigation costs that have risen by 300% on a per case basis over the past decade; high rents; high insurance, etc. And the overwhelming fact that cheap Mexican labor is cheaper in Mexico.

Out migration of jobs per se cannot be counted, although we have a goodly supply of estimates.⁴² Jobs, especially expansions, are always migrating out. Some kind of net difference comparison with previous periods is required to give the notion any meaning whatever, let alone dimensions.

In-migration of people, however, continues, the overwhelming mass consisting of poor and unskilled immigrants (legal and illegal) from Mexico.⁴³ Migration flows are often sensitive to economic conditions; a downturn in employment often slows the flow. But migration is a decisive factor in reshaping the structure of the California economy. At the simplest level, and the one with the greatest potential for political backlash, the demographics of migration and the large dependency ratio of people to jobs in the immigrant population, creates substantial "fiscal drag" for the troubled finances of the State of California, which pays the costs of education and most other services to this population. These questions are rising rapidly on the California and American political agendas, and not only in pleasant

ways. Migration at this scale also reshapes the structure of the California economy, as well as the society, towards low wage, low skill activities. California risks becoming a dual society, living uneasily together, competing with Japan in high level activities and Mexico in lower skill, lower wage activities, perhaps unsuccessfully on both counts.

(b) Defense: Structural Change as Distinct from Marginal Changes

Defense cut backs are the key to understanding the relative severity of California's recession. Defense spending (measured in constant 1992 dollars) declined from \$60 billion in 1988 to \$51 billion in 1992⁴⁴. We estimate that cutbacks in defense procurement and R&D, which are still accelerating, have already been responsible for better than one third of California's job loss. This calculation ignores other reductions in defense spending such as direct payroll reductions or base closings, but it does include ripple effects. The official estimate, (as well as most conventional estimates) is about 22%.⁴⁵ This disparity demands some explanation because if our avowedly preliminary estimate is even approximately correct, it calls into question our understanding of the structures of the California economy, especially as regards its dependency upon Federal government procurement, and the likelihood of a modest national upturn translating into an end of recession in California.

First, estimates are based on input-output relationships labor under two onerous difficulties. The first of these is that estimates for California input-output relations are derived from national input-output tables and for the most part, those national input output tables are based on modified 1982 relations.⁴⁶ Rapid changes in technology, plus reorganization of production into new, regional based "flexible production systems, that have become keen objects for study by microeconomists, argue strongly for substantial changes in these inter-industry relationships.

Second, the official state estimate (and several non- official efforts at estimation) equates the defense budget with defense spending for a given year. That is, it ignores the crucial time-lag represented by the defense "pipeline" between contract awards and changes in actual spending. This time-lag is especially consequential for estimating employment effects when awards -- and later spending -- hit an inflexion point, from an upward to a downward trajectory.⁴⁷

We can correct for these problems in the following ways to produce a simple, alternative estimate of total job loss in California due to cutbacks in defense procurement and their ripple effects. Such a preliminary alternative estimate is built on two assumptions: (1) A lag time of two years between contract awards and employment effects and (2) Treat changes in defense procurement in California as an exogenous variable.⁴⁸

Under those conditions we simulated total California annual

employment changes on the assumption of no changes in DOD procurement between 1988, the inflexion point, and 1992, in constant (1987) dollars. We excluded all other variables and treated that change in procurement and R&D as exogenous. We then compared it with a simulation based on actual (but lagged) cuts in procurement and R&D spending, again excluding all other variables and treating procurement change as exogenous.

The difference in total employment between 1990-1992 in both sketch simulations represents a preliminary estimate of job loss due to defense cutbacks -- procurement and R&D -- in California. In that first and simple analysis the total job loss in California associated to changes and cuts in defense spending arising to 230,000. In contrast the last official estimate provided by the Commission on State Finance concluded that about 180,000 jobs have been lost in the past two years due to the military industrial cutbacks.⁴⁹

The number of our estimate represent a higher regional employment multiplier of the aerospace industrial complex. But the implicit assumptions --especially changed inter- industry relations and spending time lag -- are quite consistent with empirical reality, the difference in results should be taken not as the final, correct number, but as a prompt to reconsider our understanding of the macroeconomic implications of structural change in a major regional economy. However they are not efforts to re-do multipliers for California aerospace, although they do call those conventionally received multipliers into question. Rather they aim, not at better "marginal multipliers," representations of total employment effects of adding, or subtracting, say one thousand jobs in the aerospace sector. They are back of the envelope sketches of something we can call "structural multipliers," indications of what happens to an economy if a major industry is excised. To repeat a bit, it does not address the question, What are the employment consequences of shedding a few hundred or even a few thousand jobs in a big sector? Rather it addresses the question, What happens if that sector undergoes a structural transformation: it shrinks beyond the marginal; it is off- shored. Here, it is perfectly reasonable to believe that the structural effect is something inherently different than a simple summing of marginal effects. A thousand person decline in aerospace employment will not close down the specialized equipment industries that provide capital goods to aerospace; a structural change in aerospace will induce a structural change in aerospace equipment, and the rest of the supplier chain.

Reconciling these findings with other studies. Our estimate of employment repercussions of the substantial, structural, cuts in defense spending in California are substantially higher than those conventionally available. They are, indeed, far higher than most regional multiplier effects. Why? As noted above, we do not aim at estimating marginal employment multipliers, the purpose of traditional exercises. We aim at responding to questions of structural change. Here, there is some external work that is quite aposite. Recently a major effort to recalculate national multipliers for various manufacturing industries has been made (Baker and Lee, 1993).⁵⁰ They

used some methodological and traditional assumptions in regional multipliers, but most important, they counted capital requirements (on a depreciated basis) for each job, something that seems reasonable, but is not part of the conventional approach. They also counted Government effects, at all three levels of government, something again, not part of traditional practice. Then, on the basis of readily available BLS statistics, they calculated direct plus indirect employment effects. They got multipliers for aircraft, etc. far in excess of traditional multipliers for those industries: numbers around 4 rather than 2.5. The implicit intellectual basis for the Baker and Lee analysis, is not to be found in the techniques or the data sets employed in the recalculations. It is in the basic assumption. What they look at is the total impact of a sector, starting at the very top of the chain. It contemplates the up-rooting (or complete installation) of an industry and its supplier chain. In this sense, we find it a good deal closer to our central problem of estimating the impact of a massive cut- back in a particularly well developed industrial chain: defense industries in California, than an exercise involving extending marginal multipliers beyond their dimensional and structural limits.

5. Prognosis and Conclusion

If our preliminary estimate of the role that cutbacks in defense procurement played in California's job loss is correct -- or more accurately, if it is even in "the ball park,"-- it bodes ill for expectations of a modest national economic recovery bringing with it comparable recovery to California. Structural factors, indeed, exogenous non- cyclical factors, have played a much larger role in California employment and wealth expansion, and in their subsequent contraction, than conventionally thought. Medium size cyclical uptakes will not compensate for that structural drag. Defense procurement is on a long term downward trajectory. Furthermore, the important time lag factor that we emphasized compounds that pessimism: the negative effects of recent DOD cutbacks will just now begin to make themselves felt. And over the middle term, these will be compounded by cutbacks in defense spending in California that are quite separate from procurement, such as the closing of major military bases with substantial civilian payrolls and substantial local spending. To this dispiriting reconsideration of structural problems, one must add the continuing effects of the collapse in commercial real estate. The extent of the overhang of unrented commercial properties, and the free fall in building permits, indicate a bleak middle term for construction in California. Simply put, there will be absolutely no recovery in commercial construction in California for at least five years, probably longer when traditional rules of thumb about space needs are adopted to changes in corporate organization and resources. And commercial construction and defense procurement, were the great motors of

Californian, but especially Southern Californian growth in the eighties. When they kicked into reverse, they were the key variables in determining the relative severity and persistence of California's recession.

A modest recovery in the United States economy will not translate smoothly into a comparable recovery (or perhaps any recovery) in California where major structural problems compound the cyclical. And much of the structural problem lies at the doorstep of the Federal Government. Absent, large scale, regionally targeted stimulus packages, the middle term prognosis for California in general, and for Southern California in particular, is dreary. Construction will pick up substantially only in response to a targeted public works program. And here the problem is scale. A few hundred million dollars will not go very far.

Despite much hope, and some rhetoric to the contrary, the defense industrial complex that dominates the Southern California economy, will not succeed in converting itself into a large and competitive commercial high-tech sector. Conversion at a scale that will matter will have to be conversion to civilian -- as distinct from commercial -- markets, and that points right back at Washington, in its traditional role of creating a market through purchasing policy. And here Washington confronts the same, recalcitrant problem of scale: offsetting a \$10 billion annual cut in one region is politically unlikely. Simply put it won't happen.

Endnotes:

1 Unemployment figures for summer 1993 show 6.8% for the U.S. (down two tenths of one percent from the previous month), and 9.8% for California. Source: Department of Finance, 1993.

2 There are fundamental problems with the basic numbers for the key period 1990 to 1992 that underlie all analysis -- and all the politics -- of job loss in California... The estimate has been revised repeatedly. In June 1992 the Bureau of Labor Statistics made its official revision to national job losses. It substantially increased the estimate. This provided the basis for the estimate of California job losses at 800,000 (That figure is basic to all subsequent analyses by the State of California, Commission on State Finance. See for example, their Impact of Defense Cuts on California, Fall 1992; and its 1993 update) .Subsequent preliminary revisions followed, for both national and California totals. These encompassed a range of almost 300,000 for California. At the time of this writing (July 93) a provisional rectification of 575,000 has been made by the Department of Finance.

The governmental statistical agencies messed up, real bad. (colloquialism appropriate.) The somewhat ludicrous, but nonetheless important saga of the repeatedly revised,

but incurably inaccurate, official estimate of job loss, became the object of a special New York Times article (7 May 1993): which reported:

"The department [of Labor] says it overstated by 540,000 the number of jobs that were created in the late 1980's.[nationally] And then it overstated how many jobs had disappeared in the recession."

"Not until early this year did the Labor Department realize that any of these figures were incorrect, and that data processing companies that deliver payroll information to the Government had miscounted:..."

[In June 1992 the Bureau of Labor statistics officially revised its count of job losses in the 1990-1991 recession and" stated that the job loss had been 1.7 million, not 1.2 million. The bureau had issued what it now says was an incorrect correction....Somehow a number of the data processors made similar mistakes: among other things they were counting paychecks rather than people so that a person getting a paycheck and then an overtime check came out in the data as two workers." [Software was changed at data processors in 1992 and] "the new software had corrected, in one swoop, most of the 540,000 overcount."

3 California Employment Development Department.

4 California GDP for 1991 was \$724 billion; For G-7 GNPs for 1991 see World Competitiveness Report, 1992, World Economic Forum, Lausanne, pp. 282. . Recent currency fluctuations will have likely moved California up in the league standings.

5 See for example: Storper, Michael, and Scott, A.J. eds., Pathways to Industrialization and Regional Development, London, NY, Routledge, 1992; Scott,A.J. and Paul, A.S., "Industrial Development and Regional Growth in Southern California, 1970-1987," in Mitchell, D.J.B., & Wildhorn, J., eds. Can California be Competitive and Caring?, Institute of Industrial Relations, Monograph Series, no. 49 UCLA 1989; Scott, A.J., "The Role of Large Producers in Industrial Districts. A Case Study of High Tech Systems Houses in Southern California," Regional Studies, 1992, Vol.26, no. 3, pp. 265-275; Goodnough, R., "The Nature and Implications of Recent Population Growth in California," Geography, April 1992, vol. 77, no. 335, pp. 123-133; Shallbit, Bob, California: Triumph of Entrepreneurial Spirit, Northridge, Ca., Windsor Publications.1989; SRI International, Understanding Changes in the Southern California Economy, June 1991, Menlo Park, Ca.

6In this theme see Carey McWilliams, California, the Great Exception, New York, 1949; for the latest reprise of this theme see, Joan Didion, "Trouble in Lakewood," The New Yorker, July 26,1993.

7 UCLA Business Forecast

8 Commission on State Finance, Quarterly General Fund Forecast, January 1993, p.9 .

9. *ibid.*

- 10 Munroe, Tapan, PG&E Economic Outlook, Spring 1993, p. 9, Pacific Gas and Electric Company, San Francisco.
- 11 Metro, City and County Data Book, 1993 County and City Extra: Bernan Press, Lanham, Maryland pp. 875 and 952: shows LA with about three times Detroit's manufacturing employment. See also Bank of America, Economic and Business Outlook, Nov. 1990, p.4
- 12 The concept of economic base is a mainstay of regional economics. For a review of its development, see, Richard Andrews, "the Mechanics of the Urban Economic Base: the historical development of the base concept, Land Economics, XXIX, August 1953, pp. 161-167; Homer Hoyt, "Homer Hoyt on the concept of Economic Base," Land Economics, XXX, August 1954, 182-186.
- 13 US Census, Compendium of the Ninth Census, 1870 shows Los Angeles' population as 5728.
- 14 California, Employment Development Department, Monthly Labor Market Bulletin, April 1993, Table 5. All Los Angeles Employment numbers are from this source.
- 15 Hall, P. and Markusen, A. (1992) "The Pentagon and the Gunbelt" in A. Kirby ed. The Pentagon and the Cities, Newbury Park (CA): Sage Publications, 53-76, page.66.
- 16 Davis, Mike, City of Quartz: Excavating the Future in Los Angeles, New York, Verso, 1990.,
- 17 Op.cit., p. 68.
- 18 Commission on State Finance, .op. cit., Fall 1992.
- 19 Data provided by California Association of Realtors, 1993; more anecdotal sources hint at far sharper declines during 1993, especially in the luxury housing segment: see, for example, Didion, op. cit., p. 60.
- 20 Wages from BLS C-13; California consumer price index from UCLA Business Forecast
- 21 Commission on State Finance, Defense Spending in the 1990s: Impact on California, Summer 1990, p.14. Let us recall that this is a conservative figure. It does, not for example, count "black" or secret projects, such as stealth aircraft and SDI (Strategic Defines Initiative or Star Wars) which were big ticket items, and done in the region. For example the California Commission on State Finance remarks: "Nearly all of the SDI contract awards for the next several years are for R&D. The exact share of SDI funding entering California is unknown, since the location of work for many SDI contracts is classified. However, we do know that California has traditionally garnered about one-third of all research and development funding, and data on unclassified awards shows that California firms such as Rockwell International, McDonnell Douglas, Lockheed, Aerojet, and Science Applications are major participants in the program" Commission on State Finance, Impact of Federal Expenditures on California, Fall 1989, p.4.
- 22 Commission on State Finance, Fall 1992, Op. cit. The proportion rises to 80% for prime contracts.
- 23 An increase that represents about the 80% of total jobs

added in manufacturing industries between 1980 and 1989.

24 California Employment Development Department, Monthly Labor Market Bulletin, April 93, table 23.

25 U.S. Department of Commerce, Economics and Statistics Administration, Foreign Direct Investment in the United States, Benchmark Survey, Final Results, 1993, table d 21, California.

26 California Employment Development Department, Monthly Labor Market Bulletin, op. cit. April 1993.

27 The UCLA Business Forecast, annual averages.

28 Center for Real Estate and Urban Economics, University of California at Berkeley, California Real Estate Opportunities in the 1990s, September 1991.

29 See for example, "Gold Rush, Los Angeles-style; urban giant overtakes San Francisco as financial center," Christian Science Monitor, 30 Jan 1987, p.3; or Business Week of 11 Nov. 1991, p 173ff.

30 Scott, Allen and Paul, Alan (1989) "Industrial Development and Regional Growth in Southern California, 1970-1987", in Mitchell and Wildhorn eds. (1989) Can California Be Competitive and Caring?, Institute of Industrial Relations, Monograph and Research Series no.49, UCLA.

31 BLS, ES 202

32 California Employment Development Department, Monthly Labor Market Bulletin, April 1993.

33 For non American readers California has 54 electoral votes. Presidents are elected by electoral, not popular votes. In a two candidate race, if a candidate gets 49% of the votes in California, he gets zero electoral votes.

34 Commission on State Finance, Quarterly General Fund Forecast, January 1993, p. 6.

35 National Real Estate Index, Market History Report.

36 California Association of Realtors, 1993.

37 California Employment Development Department, California Labor Market Bulletin, April 1993.

38 PG&E Economic Outlook, Spring 1993, p.7.

39 PG&E Economic Outlook, Spring 1993, figure 23.

40 Hoover, Edgar and Vernon, Raymon, Anatomy of a Metropolis, Harvard University Press, 1959.

41 California Industry Migration Study, October 1992, prepared for Los Angeles Department of Water and Power, PG&E, Sand Diego Gas and Electric Company, Southern California Edison Company and Southern California Gas Company.

42 The Economist, relying on the California Industry Migration Study cited above, reports that 5 to 10% of total California job loss is due to out-migration of jobs, but that out-migration is responsible for 40% of industrial job loss. Vol. 328, no. 7820, July 17, 1993, p. 24

43 Data on illegal immigrants are notoriously unreliable. Official estimates are subject to mood swings, and revisions. The latest is the US Bureau of the Census revision of its estimate of illegal immigrants residing in

California. In July 1993, it was doubled, from one to two million, although California's proportion, about one half the national total, was kept constant. Official publication is anticipated by the end of 1993. See, San Francisco Chronicle, 7 August 1993, p. 1.

44 Commission on State Finance, Fall 1992, Opus cit.exhibit 10, p. 21

45 Commission on State Finance, Quarterly General Fund Forecast, January 1993, page 6.

46 US Department of Commerce, Regional Multipliers, Appendix II, "Detailed Industries for which Multipliers are Available" states that "the detailed industries are based on the 1982 benchmark input-output accounts"; these data are what generate the multiplier for aerospace industries.

47 An alternative way around this problem is to use national level data for actual expenditures by SIC category and adjust accordingly as in the WIA model used in the UCLA Business Forecast model.

48 See Olivier Blanchard, "Consumption and the Recession of 1990-1991," American Economic Review, May 1993, vol. 83, no.2, p. 271 on treating government spending as exogenous.

49 Commission on State Finance, Fall 1992, Opus cit.

50 Dean Baker and Thea Lee, "Employment Multipliers in U.S. Economy," Economic Policy Institute, Washington DC, 1993.

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