



RAY'S CORNER

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Economic and Market Commentary

Life is hard and then you die. For most Europeans, that jaded phrase pretty much summed up their life for thousands and thousands of years. Food was scarce, nutrition poor, and just about everything was made by hand, making goods time-consuming to produce and in short supply. By mid-18th century, things were about to change. The first Industrial Revolution was about to commence.

Historians will argue the appropriateness of the name. Was it really a “revolution,” or more of a constant, economic and social change stimulated by a small number of closely linked inventions? That debate I will leave to the semanticists. But whatever it was, all economic historians agree that it was the most important event in the history of humanity since the domestication of animals and plants.

It Starts With A Full Belly

Think about it. If most people's time is spent in food production, who is going to make anything else? That's exactly what the problem was until an Englishman named Jethro Tull (now you know where the musical group got its name) invented a seed drill in 1701. It was a mechanical device that evenly spread seed at the proper depth across large tracts of land. Up until Tull's invention, a farmer would walk a row with a stick. He would poke the stick into the ground, drop the seed, cover the hole, then repeat until exhaustion. I told you life was hard back then.

The decades passed, and in 1786, a man named Andrew Meikle invented the threshing machine to replace hand threshing

(loosening the edible part of cereal grain from the inedible chaff that surrounds it), perhaps an even more tedious aspect of farming than seeding. By the 1830s, the iron plow was invented, with mechanical reapers, combine harvesters and binders soon to follow.

Not only was food production greatly enhanced, which led to a dramatic increase in world population, but now it took a whole lot fewer people to grow the same amount of food. This freed up labor for other pursuits.

Time to Spruce Up the Wardrobe

In the early 18th century, most Europeans owned two to three sets of clothing if they were lucky. Usually, a summer and winter set. Cloth production was slow and tedious. Spinning and weaving were done in people's houses when they weren't working the fields. Hence the etymology of "cottage industry" becomes self-evident. Women would typically do the spinning and men would do the weaving. So I want you to imagine this for a moment: After 12 hours in the fields taking a stick and making a hole 1000 times, you come back to your dark, dank hovel and spin yarn by candlelight for three hours to enjoy your leisure time. Again, "life is hard and then you die." Thank goodness relief was on the way.

It probably started with John Kay's invention of the flying shuttle in 1733. The shuttle is the tool that carries the weft yarn and threads it between the yarn of the warp. Then came the "Drop Box, then Hargreaves "Spinning Jenny," which employed multiple spindles. Cartwright then came up with a vertical power loom, all of which vastly improved the efficiency of textile manufacturing. But it wasn't until 1793, when Eli Whitney invented the cotton gin, that textile production entered the modern age. Now it became possible to quickly and easily separate cotton fibers from their seeds, radically advancing a technology that had been virtually unchanged for more than 2000 years.

Movin' On Down the Highway

More food, better clothing, machined goods, so how do you transport them in an efficient way? Elementary, dear Watson. By steam power. Another civilization-shaking innovation of the Industrial Revolution. By the late 18th century, machine tools began to develop with great rapidity. Up until this time, all metal products would be worked by hand. Now machines started cutting metal and batch producing cases, gears, springs and screws. Eventually,

enormous machine tools were capable of producing the large diameter cylinders for early steam engines.

Although the idea for the original steam engine had been around for almost 60 years, it wasn't until Scotsman James Watt designed a more powerful and efficient engine in 1769 that steam engines would be able to power the first trains, steamboats and factories. And thus the Industrial Age was born. Ideas, inventions and improved processes poured forth at a dizzying pace. Gas lighting, sheet glass, the advent of canals and the re-discovery of cement are just a few examples. But not all inventors, even those who contributed mightily, were destined to become household names. Allow me to share a case in point.

Enter The Baron

Young Carl Von Drais was truly a child of the Industrial Revolution. He was born in 1785 to Baron and Baroness Carl Wilhelm and Ernestine Von Drais in Karlsruhe, Germany. Bright and inquisitive as a youth, he excelled in the studies and eventually entered the University of Heidelberg, where he studied mathematics, physics and architecture until graduation. With a degree in hand, he soon headed to Mannheim to pursue his life's passion which was inventing.

Throughout the Baron's life, he was credited with a myriad of inventions, many of which are still in use today. Among his inventions are the railroad hand car, the meat grinder and the earliest typewriter with a keyboard. As common as these inventions were, without a doubt Von Drais's most popular creation was the Laufmaschine, sometimes called the Velocipede or Draisine, also nicknamed the Dandy Horse. Today we refer to Von Drais's pet invention by its most common name, the bicycle.

Necessity Is The Mother of Invention

After three straight years of poor harvests, Europe was in dire straits. Disappointing crop failures were soon exacerbated by a cataclysmic event half a world away. Like the eruption of Krakatoa some 70 years later, Mount Tambora in Indonesia erupted in 1815 and climatically affected the world for years to come. That summer, most of Europe was covered in snow and farms were hard-pressed to produce food to feed the human population much less horses. This predicament led Von Drais in search of a replacement for the horse in transportation. Two years later, he emerged from his laboratory to introduce to the world the "Laufmaschine" (German for

running machine). Originally made from cherrywood, this two-wheeled means of transportation is commonly recognized as the archetype of the bicycle.

A Shoemaker's Dream

The earliest Dandy Horse was little more than a novelty. Requiring great balance and strong legs, it called for its riders to propel themselves along by straddling the machine and pushing it along using alternate feet. Downhill speeds could exceed a death-defying 15 mph, but uphill was hellish on shoe leather. Hence the term, "Shoemaker's Dream."

It wasn't until the 1860s, when the French started manufacturing the first steel-framed, pedal-driven vehicles that they became really popular and commercially viable. It's around this time that the vehicle came to be recognized as the "Bicycle."

By the 1870s, Americans began importing French and English-built bicycles, and by the late 1890s, nearly 20% of all American advertising was spent on bicycle ads. America was now officially bitten by the "bicycle craze."

It Spread Like Wildfire

Bicycle use by the turn of the 20th century spanned all socioeconomic lines. Rich, poor and middle class used bicycles for transportation, delivery and recreation. Its impact on society was so dramatic, that it can be said that bicycle use significantly advanced the cause of women's suffrage. Susan B Anthony said, "Let me tell you what I think of bicycling. I think it has done more to emancipate women than anything else in the world. It gives women the feeling of freedom and self-reliance. I stand and rejoice every time I see a woman ride by on a wheel...the picture of a free, untrammelled womanhood."

By 1900, bicycle racing was the rage on both sides of the pond. The new Union Cycliste Internationale was formed to govern the sport. Long-distance races such as the three-week Tour de France became fan spectacles as did single day "classics," such as the Tour of Flanders. Perhaps the most exciting form of cycle racing merged with the advent of track racing and the invention of the Velodrome. The Velodrome is a steeply-banked track with two 180-degree bends connected by two long straight ways. Appearing in the first modern Olympics in 1896, Velodromes quickly became crowd favorites.

The West Was Not Immune

Remember, before Orville and Wilbur Wright headed off to Kitty Hawk, North Carolina, in 1903, they had to lock up their bicycle shop. I mention this to reinforce the fact that there wasn't a place in the nation that wasn't totally enthralled with bicycles— not New York, not St. Louis, not Chicago, and certainly not San Francisco.

By the late 19th century, San Francisco was the showplace of the West. Almost a quarter of a million people populated its 49 square miles, and it was time the city had a public park worthy of its natural beauty. Plans started in the 1860s, and by the 1880s, 75,000 people or more would visit Golden Gate Park's 1000+ acres every summer weekend by streetcar, carriage or bicycle. In 1905, funds were raised by private subscription to build playing fields and a Velodrome in the western reaches of the park. For more than a century now, cyclists from all over the world have used that track. That part of Golden Gate Park that houses the Velodrome has come to be known as the polo fields.

"If you're goin' to San Francisco, be sure to wear some flowers in your hair."

John Phillips

We here in San Francisco are recognizing the 50th anniversary of the period that became known as "The Summer of Love." All the museums in town are paying homage to a period of time when the nation's moral compass came under scrutiny.

That rally didn't start in the summer of '67. It really started the previous fall, when San Francisco's free newspaper, the "Oracle" announced on its front page that "A Gathering of the Tribes for a human be-in" would take place on January 14, 1967. Where? In Golden Gate Park's Polo Grounds. (Yes, I'm finally bringing it home; thank you for your patience.)

Think about it. This was to be the opening salvo to a cultural revolution with the hope of "giving birth to a new nation." One that embraced:

**Peaceful Co-existence
Racial Harmony
Sexual Liberation
Ecological Consciousness
Organic Food**

**Communal Living
Alternate Commerce
Free Culture**

It was time to “Turn on, tune in, drop out,” in the words of Prof. Timothy Leary, late of Harvard University and one of the human beings in celebrities in attendance along with Jerry Rubin, Allen Ginsberg, Lawrence Ferlinghetti, and Dick Gregory. Not only were people there to help usher in a new era of higher consciousness, but they were there for the music, the music of San Francisco’s four great house bands—the Grateful Dead, Jefferson Airplane, Big Brother and the Holding Company and Quicksilver Messenger Service. That’s why they came, 20,000 strong.

“There’s something happening here, what it is ain’t exactly clear.”

*For What It’s
Worth
Buffalo Springfield,
1967*

In order to accurately gauge where we are as a country in 2017, economically as well as politically, which for our purposes will help us gain market perspective, it’s important to know where we’ve come from and where we are heading if we hold the course we are on.

In 1967, we were a country engaged in an unpopular war—Vietnam (not that any war is popular). Our population surpassed 195 million people. Twenty-three million retired workers were collecting Social Security, with an average benefit of \$99.70 per month. There were 3.9 workers per retiree contributing to the Social Security system.

Like today, one political party ruled the political roost, only back in 1967, it was the Democrats: Lyndon B. Johnson was President, Democrat John McCormack of Massachusetts was Speaker of the House and Senate Majority Leader was Democrat Mike Mansfield of Montana. Congress passed and the President signed legislation that increased Social Security benefits, liberalized benefits for dependents and survivors and increased contribution and the benefit base from \$6,600 to \$7,800 beginning the next year. Medicare benefits were expanded to include disabled beneficiaries, not just retirees over the age of 65.

Major legislation was passed addressing civil rights, elementary and secondary education, discrimination in employment, truth in lending and national parks and scenic rivers.

*“One pill makes you larger
and one pill makes you small
and the ones that mother gives you
don’t do anything at all...”*

*White Rabbit
Jefferson Airplane, 1967*

In 1967, medical healthcare was going through its own revolution. Advances in modern medicine were now treating cancers, diabetes and premature births with resounding success only dreamed of 30 years before. Remember, 1967 was the year the artificial heart was introduced. With these advances came ever-increasing costs. Access to healthcare dramatically increased costs as well. In 1935, one in 15 people was admitted to a hospital during the course of a year. By 1967, one in seven people found their way to a hospital. By the end of 1967, soaring healthcare costs were a major concern to economists. One famous Chicago Tribune headline of the time predicted a day in the hospital would reach an unbelievably high \$80 per day by the end of the decade.

Here’s a bit of perspective whose importance will be revealed shortly. During the 20th century, the number of persons under the age of 65 tripled.

The number of people over the age of 65 went up 11 times. In 1967, there were approximately 1.2 million people in America 85 years or older. Today, that number is 9½ million, and the number is estimated to be over 20 million by 2050. One in two people today over the age of 85 needs assistance.

Like the rest of the world, the US is an aging society. This will place substantial additional pressure on publicly-funded health, long- term care and income support programs for older people. How we cope with this fiscal stress will in very large part have to do with our ability to grow our economy, which will not only enable us to provide for older Americans, but go a long way toward providing income equality and furthering the advancements for all positive consequences that the Industrial Revolution put in motion more than 200 years ago.

"We better stop now, what's that sound? Everybody, look what's going down."

*For What's its Worth
Buffalo Springfield 1967*

Let Me Bring It Home

50 years ago, the US economy produced a little more than \$4 trillion worth of goods and services. Our total debt equaled a very healthy 40% of GDP. The government brought in around \$760 billion a year in revenues and spent about \$805 billion, roughly a deficit of 1% of GDP. 35% of our budget was spent on mandatory spending. These are things that are based on existing law rather than the budgeting process, things like interest, Social Security, Medicare and health, veterans benefits and so forth. Discretionary spending, where the budgeting process comes in, addresses defense, education, transportation, and international affairs made up the other 65%. Back in 1967, 20% of our budget went to Social Security and unemployment and Medicare equaled 4% of the budget.

Today, 59 million people are collecting Social Security with an average monthly benefit of \$1406. There are now 2.9 workers for each recipient, down from 3.9 back in 1967. It is estimated that in less than 15 years, that number will be down to two workers for each recipient.

Last year, the country's GDP (all goods and services produced) equaled a little more than \$17 trillion. Our national debt has risen to an alarming 104% of GDP, and our budget is now reversed.

Today, we spend roughly 65% of our annual budget on mandatory spending and 35% on discretionary spending. Social Security and unemployment account for 34%, and Medicare and health another 27%. Bluntly put, this means we can scrap every nickel we spend on roads, transportation and international affairs on the discretionary side and still not balance the budget. It's no wonder Social Security is slated to run out of money in 2030 if nothing is done.

"My baby gives me the finance blues, tax me to the limit of my revenues"

*Money, Money
The Grateful Dead*

Allow me to put things in perspective because it is not all doom and gloom. In 1967, the average cost of a new house in America was \$14,250. The cost of a new car was \$2,750, gas was \$.33 per gallon and the average American worker made \$7,300 per year.

Economists have a concept called “time cost.” It basically compares how many hours workers would have to work to buy something as compared to how many hours they would have to have worked for the same items years ago. Back in 1967, it would’ve taken roughly four weeks of work to have bought a toaster, a TV and a phonograph. Today, that same basket of goods costs the average American worker roughly three days of labor. That’s great, that’s real progress. Where it gets dark is when you look at healthcare. Back in 1967, all healthcare costs for the average American, whether privately paid or paid for by the government, cost the average worker 15 days of labor. Today, it costs almost 60. The long and the short of it is this: Over the past 50 years, the cost for many goods and services is a quarter of what they were, but healthcare has more than quadrupled.

“You say you got a real solution, well you know we’d all love to see the plan.”

*Revolution
The Beatles 1967*

So, let’s recap what we know. It’s clear that American demographic changes will result in a dramatic increase in spending for Medicare and long-term care and retirement benefits. In statistical terms, that means, with all else equal, we go from spending approximately 11% of national GDP on health and Social Security to almost triple that amount by mid century. That would mean, unless changes occur, there would be no money for anything else. No, I’m not suggesting the Inuit solution of casting off our elderly on an ice flow when they can no longer contribute to the well-being of the tribe. What I am suggesting is the importance of growing the economy.

Bear with me, we’re in the home stretch. For the past 100 years, the growth rate of the US economy has averaged 4.33%, with the median being 3.18%. Back in 1967, it was roughly 5.75%. Right now, it is running a very anemic 1½% to 1¾%, depending on whose numbers you use. Almost 15% of Americans live below the poverty line. But if we could raise our productivity and growth to 3½%, that would make a world of difference. Case in point: If we stay at the anemic 1½% growth level, our public programs for health

and retirement will triple the burden on our budget by mid century leaving nothing for anything else like education, infrastructure, environment or defense. It's been said time and time again that voters of all ages, not just seniors, have repeatedly indicated their unwillingness to reduce benefits or eligibility for these programs.

If, on the other hand, the economy were to grow at a 3½% rate, the burden for healthcare and retirement would barely grow at all relative to the overall size of the economy. That's why an expansive economy is so critical for all Americans.

"The Wheels On The Bus Go Round and Round"

*Children's Folk Song, Verna
Hills, 1939*

So, if you buy into the importance of America's economic health being directly tied into growth, let me briefly share with you why it works that way.

It starts with labor participation. Don't let the low (4½%) unemployment numbers fool you. American labor participation right now is hovering around 62%. That's a 40-year low. If business has access to capital, and it is not buried in red tape and regulation, it will create fair-paying jobs which equates to an uptick in production. This uptick in production will lead to an increase in labor specialization. It's this increase in specialization that will create a more sophisticated and productive workforce that can demand greater pay. Employers will be able to pay higher wages because their workers are more skillful, thereby creating more goods and services more efficiently. This is a key factor in why educational reform is so critical.

Increased productivity spurs on new technologies and vice versa. Go back to the beginning with our discussion of the Industrial Revolution. Think of what happened to automobile production when assembly-line production was introduced. New technologies promote productivity, productivity promotes surpluses, and when people have a surplus of capital from their labors, they want to trade for other goods and services. Reducing, not increasing, barriers to trade will allow for more beneficial exchanges to occur. No, I haven't forgotten my pledge to address tariffs, duties and protectionism. And I will tell you about Senator Smoot and Congressman Hawley. I told you this was a multi part series, and so, "the wheels on the bus go round and round."

While it is never my intention to over tax my reader's patience, let me conclude with this observation: It's often easy to be distracted by the "Breaking News" banners that constantly flash across our TV screens. Whether it's coming from the left or the right, news has become entertainment. As informed citizens, it's incumbent on us to not lose sight of the undeniable and deal with it objectively and effectively.

Just think of it this way: When you look at those photos from the Summer of Love, those 25-year-old flower children "dancin'" in the street" will turn 85 ten years from now. Now that's an undeniable trend that needs to be planned for. And if it's planned for successfully, it will result in prosperity across multi-generational lines. As always, with...

With Best Regards,



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