

Chapter Nine What Are You Worth?

Engineers are famous for enjoying their work so much that they'd do it for free. (Some wags might argue that employers take advantage of that fact.) But in truth, most engineers—certainly those with mortgages and college-bound teenagers—take a keen interest in their take-home pay, and expect fair remuneration.

It's not that electrical engineers aren't well paid. In 1996, the median income for an IEEE member working in his or her specialty area was \$72,000, according to the 1997 IEEE Salary and Fringe Benefit Survey, an increase of 7.5 percent from 1995's figure of \$67,000. The starting pay for BSEEs in 1997 was a record \$38,485, according to the National Association of Colleges and Employers (formerly the College Placement Council).

Compensation is nonetheless a touchy subject for many engineers. It rankles them to know that their salaries, on average, peak out at about age 55, and that over the last two decades their raises have barely kept up with inflation. Downsizing, outsourcing and the demise of lifetime employment have also hurt salary growth for EEs.

As an individual, your challenge is to maximize your paycheck in a world where competitive pressures conspire to keep salaries down. You can do that by aiming for the high-paying skills (ASIC, DSP and submicron design in the mid-1990s), the high-paying cities (San Francisco and Boston) and the high-paying positions (technical and general management).

Employers prefer to hire employees at commodity wages and then squeeze premium-quality work out of them. (And why not? Everyone likes a bargain.) When you find yourself in salary negotiations, you must position yourself as a premium product entitled to more than commodity pay. To win raises and bonuses after you're hired, you must demonstrate that you add more to your employer's bottom line than you take away.

Your book value

The median income for a full-time IEEE US member working in his or her chosen specialty was \$72,000 in 1996, including base salary, earnings from self-employment, commissions and bonuses, according

to the 1997 survey of the IEEE's US nonstudent members by the organization's US Activities Board. This corresponds to a typical member age 44 with about 18 years of experience. The range of median incomes stretches from \$37,000 (lowest decile) to \$125,000 (highest decile).

Beginning from this point, your calculation of "book value" can be influenced by a number of factors including education, years of experience, level of management responsibility, industry of employment, size of the company and geographic region.

EEs with the most education, most years of experience with the same employer, most management responsibility, and those at large companies in hot industries had the highest median pay, the survey showed. Ph.D.s earned \$82,708, those with more than 40 years' experience earned \$90,000, and general managers averaged \$100,000.

Geographically, IEEE members' salaries were highest in the West, (\$78,000 average) and the Northeast (\$76,500). Those in the heartland earned less, but presumably their living costs were lower as well. The highest-paying specialty was "engineering and human environment" (\$82,078), and the hottest industries were computers (\$79,500) and telecommunications (\$78,000). Among cities, San Francisco boasted the highest average EE salaries (\$88,900.) For additional information from the Salary Survey, see Appendix D.

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So the answer to the question "What are you worth?" starts with your book value. If you're a BSEE who just landed your first staff job at a power company in Mississippi, your salary might be under \$30,000. If you're a Ph.D. with 25 years of experience who's working as an executive in a digital cellular-phone company in San Francisco, you can expect to earn \$100,000 or more. Never settle for "average" pay unless you consider yourself an average engineer.

If you add value to the bottom line—by being part of an effective sales team, or by designing a winning product, or by reducing your company's power costs by \$1 million a year—you should be compensated accordingly. If you're perceived as part of the burden of labor costs, you won't have much leverage for demanding more pay. That's why it's so important on your resume (and in your job

interview, and in future performance reviews) to assert that your past projects or initiatives have paid off for your employer.

Here are some numbers to keep in mind when you go into salary negotiations:

10 to 20 percent. That's the size of the raise (not counting the effect of regional variations in pay) that you may reasonably expect when changing jobs.

5 percent. That's the median raise in pay that the electronics industry provides during good years, such as 1995.

The difference in cost of living between the city where you work now and where you hope to work next.

Your "book value," according to salary surveys conducted by the IEEE and EE Times.

The pay scale of your prospective employer. Large companies make a point of paying prevailing rates. If the company is small, you may have to ask about the range for your position.

The value of the noncash benefits that your prospective employer offers.

Negotiating compensation

You may never get to negotiate your salary: The pay for the position might be locked into an unalterable budget. On the other hand, if you bring new technologies or new customers to your new employer, or if you're taking part of your compensation in shares of stock, or if you qualify for a signing bonus, the negotiations might be nearly as complex as Shaquille O'Neal's. In any case, don't focus on money until you're sure they want you.

As a rule, aim for a win-win agreement that satisfies the underlying needs of both sides, rather than their positions. The employer's position might be a specific salary but his need may be to fit you under the departmental salary cap. (If you were recruited by a headhunter, the employer is already paying a 15-30 percent premium for you.) Your position may be a specific salary level, but your need might be to cover all of your bills and save for retirement. Don't mix them up: Positions are negotiable but needs often aren't. If a headhunter is involved, he or she can facilitate the process.

Don't try to negotiate until you've considered the entire compensation package, including reimbursement for relocation costs, medical and

retirement plan, automobile or parking-expense subsidies, profit sharing, stock options, etc. If there's a ceiling on salary, consider noncash benefits such as free use of a company gym, an extra week of paid vacation, or a company credit union that will lend you money at below-market rates and refinance your home for free. Propose a signing bonus in lieu of a higher base pay.

Try to negotiate with the person who sets your salary. If not, you can't fully rely on his offer and you'll need to meet someone with more clout. Don't drive too hard a bargain. It could come back to haunt you. One engineer negotiated a more generous relocation package than his new employer had ever offered. Later, his supervisor was quick to find fault with his work. In raising his compensation, he had greatly raised his employer's expectations and even inspired resentment. Although he considered his package fair and reasonable—he couldn't have afforded to relocate without it—his boss never fully forgave him. He won the battle but lost the war.

Never go into a salary negotiation without a fall-back position, or what the Harvard Negotiation Project calls your "BATNA," or Best Alternative To a Negotiated Agreement. (See Chapter 8, page 79.) Your BATNA puts a floor under your salary and gives you the power to walk away if the employer's bid for your services goes too low. Staying at your current job is a BATNA. So is having a competing job offer. Or the option of becoming a consultant. Even if you're currently unemployed, you must develop a Plan B. Otherwise you'll agree to anything.

Negotiating Wisely

- Determine your financial needs in advance.

- Don't negotiate compensation until they offer you a job.

- Try to negotiate with a decision maker.

- Make sure you have a BATNA, or fall-back position.

- Don't begin negotiating until you've seen all the elements of the compensation package.

- Never accept or reject a salary offer without your family's input.

- Don't drive too hard a bargain; the employer can still cancel the offer.

- Demonstrate that you add to the bottom line.

- Calculate your "book value" according to the respected salary surveys.

- Expect a 15 percent salary hike as a minimum inducement to move.

What about a bonus?

In the future, trend-spotters say, more American EEs will receive bonuses from their employers. In Japan this is already true. Japanese engineers earn about as much as US EEs do, but about 30 percent of their remuneration comes from twice-yearly bonuses and overtime pay, according to a 1996 study by EE Times. Indeed, "percolating through industry is the idea that fixed [remuneration is] a practice of the past," EE Times noted in its 1996 Worldwide Salary and Opinion Survey. That survey showed that 49 percent of EEs and computer scientists received bonuses in 1995. Only 13 percent were part of a formal pay-for-performance program at their company, however. IEEE Salary Surveys also report an increasing trend in contribution to income from overtime and profit sharing for US members.

That's both good and bad news. It means that engineers will be asked to shoulder some of the business risk instead of leaving that up to management alone. For instance, they might earn a smaller base salary in lean years but pick up substantial bonuses when their company or their department has a shoot-the-lights-out year.

If you're interviewing at a company with a pay-for-performance or bonus program, find out what portion of your pay will be tied to performance and how much will be fixed. Find out whether the bonuses are discretionary or whether they accrue automatically when the company or the project team meets certain preset goals. Some companies hold out the promise of bonuses to everyone, but then allow individual supervisors to award them selectively—or not at all. In short, don't always count on a bonus.

So-called "signing bonuses" are the exception rather than the rule in the profession. Most of these bonuses go to avidly sought executives or engineers with skills, like digital-signal processing, that are in hot demand. Silicon Valley firms are getting used to offering bonuses to buffer the shock of relocating into a neighborhood where a modest air-conditioned bungalow might cost \$350,000.

Evaluating the offer

Never accept or reject a salary offer on the spot. If negotiations have gone smoothly, you'll probably be happy with the offer. If it's lower than you expected, ask them how they arrived at their figure. If it's less than you absolutely need, say so. Some authorities say that if you

greet the first offer with silence and contemplation, the hirer might panic and raise the bid. Don't show disappointment or dismay: That could poison the goodwill you've spent so long building up. Either way, impulsiveness at this stage can only hurt you. You should sleep on it.

Your evaluation of the offer will depend on, among other things, your personal financial needs. Some of the variables are:

Marital status. Will your spouse have to give up a job? Will there be job opportunities for your spouse if you move?

Children. Will the public schools be good, or will you have to consider private education.

The direct and indirect costs of relocation. How much more or less will it cost to maintain your current standard of living in a new city or state?

Retirement needs. If the company has a 401K plan, what is the employer's contribution level? How many years do you have to work at the company before you're fully vested?

Relocation costs will probably play a large role in your evaluation of a salary offer. Many of the highest-paying electronics jobs in the US are located in metropolitan areas like San Jose, Boston, Washington, DC, and New York City, but the gains in salary are often offset by the higher costs of living. If you move from Columbus, OH, to Santa Clara, CA, you'll require a steep pay increase to maintain a suburban lifestyle.

To calculate geographical differences in the cost of living, visit a Web site run by the Center for Mobility Resources, a relocation-services company. Just plug your current salary, your city of residence and your destination city into their formula. The result will suggest how much more (or less) you might need to earn at your new job. The Web site's address is <www.homefair.com/homefair/cmr>.

For instance, if you earn \$75,000 in Phoenix, you'll need a 50 percent raise—to \$111,741—to live equally well in San Jose, according to the CMR formula. If you moved from a \$75,000 job in Schaumburg, IL, to San Diego, you'd need only \$80,800 to keep up with the Joneses.

The CMR service doesn't claim to be scientific, but the point is clear: Don't jump at that California salary offer until you check the local real-estate ads. In Allentown, PA, where Lucent Technologies has a plant, you could buy a 10-room house with a swimming pool for about \$200,000 in the mid-1990s. The same spacious home in suburban San Francisco could cost many times that amount.

Checklist of nonsalary benefits to consider

- Subsidization of graduate-school tuition
- On-site subsidized day care
- An extra week off for all employees at Christmas
- A credit union with below-market rates
- Company car, mileage compensation or car allowance
- Profit sharing
- Overtime requirements and compensation (monetary or time-off)
- Stock distributions
- Company purchase of your home if you transfer
- Payment of dues for professional societies and civic organizations

Why aren't EE salaries higher?

Are you running faster and faster just to stay in the same place? Join the club. While the nominal income of electrical engineers grew from \$19,200 to \$72,000 between 1972 and 1997 (according to IEEE) virtually all of the growth has been offset by inflation. Corporate productivity has risen sharply over the past 20 years, but the gains have been used to raise shareholder value (by raising earnings per share) rather to raise the salaries of engineers.

A 1995 salary study of all US engineers by the Engineering Workforce Commission (EWC) of the American Association of Engineering Societies actually showed an across-the-board drop of about 10 percent in earning power between 1974 and 1994. The average MS with 10 years' experience made \$59,850 (in 1994 dollars) in 1974, but only \$55,550 in 1994, according to the EWC. Only entry-level BSEEs held their ground, at about \$35,000, probably because they enter the market with up-to-the-minute skills.

Some observers claim that corporations have undercut engineering salaries by using low-cost immigrant engineers. Industry fought for the Immigration Act of 1990, which allowed an extra 90,000 foreign workers into the US, on the grounds that there weren't enough American engineers to satisfy demand. Robert Rivers, an IEEE member and former publisher of the Engineering Manpower Newsletter, thinks the "shortage" never existed, except as an excuse to raise the supply of engineers and thereby suppress wages.

He's not the only suspicious one. "The reluctance of the business and university communities to pay top wages for the skills they say they desperately need to compete lends credence to allegations that

importation of skilled people from abroad helps to keep down US salaries," said an article in the October 1995 edition of *Engineers*, the quarterly bulletin of the EWC.

But others, like Jack Doyle, an IEEE member and 1996 chair of the EWC, say that engineers are simply in the same position as other American workers. "No one who makes a salary is doing any better than they were 20 years ago," Doyle said. "The only people getting ahead are the investors."

The debate over the effects of immigration and overseas outsourcing is complex, and beyond the purposes of this book. Suffice it to say that electronics and electrical engineers are by no means immune to the effects of a globalized economy.

Conclusion

To estimate your market value, consult the latest IEEE salary survey, or a similar survey conducted by *EE Times*. Find out what the highest, lowest and median salaries are for someone like you—someone who has a similar job in a similar industry, who has the same level of training and experience, and who works in the geographical region where you hope to work. If you're changing jobs, you can reasonably expect a raise of 10 to 15 percent. If you want more, you'll have to demonstrate that you're worth more than the mythical "average" engineer.

Negotiations should take place after you're offered a job and before you accept it. That's when you'll have maximum bargaining power. (By then, you should know if you're at least in the same ballpark.) If a gap persists between the offer and your needs, try to bridge it by negotiating for nonsalary rewards, such as more paid vacation. To negotiate from a position of strength, you'll need a fall-back position, or BATNA.

Before accepting an offer, talk it over with your family. Weigh the offer against the emotional wear-and-tear that relocation could have on them. Consider all of the costs of changing jobs as well as the benefits. Make sure that your new salary will sustain your current lifestyle and meet your future needs.

To maximize your compensation, aim for jobs in successful, growing companies. Take on additional management or sales responsibilities.

Keep your employer aware of the ways in which your efforts boost the company's bottom line. Stay current with new technology and constantly renew your indispensability.

Unless, that is, you love your work enough to do it for nothing. "Engineers are funny people," says the EWC's Jack Doyle. "We're so engulfed in the enjoyment of the technology, that we don't pay attention to these other things, like income." He's at least partly right. Only a third of new computer-science grads say they chose their career for the income potential. For all engineering majors, the response was only one in four. How many young lawyers could say the same?