CAREER OPTIONS WITH A MASTER'S IN ECONOMICS

Christian Roessler
Associate Professor / MA Program Director
Department of Economics
Cal State East Bay

6/24/2015

1. OVERVIEW

The master's in economics is geared towards research-related roles in *for-profit corporations and firms*, *government and not-for-profits*, and *academia*. In these capacities, economists perform quantitative and strategic analysis, planning and administration, and teaching.

In a moment, we will discuss demand in the three sectors in a bit more detail, but here is a first look at the kinds of non-academic jobs that are in general available to economists, as well as some of the employers in the Bay Area.

Across sectors, the non-teaching careers that are relevant to the master's in economics can roughly be grouped into three categories: *Finance and Administration*, *Marketing Analytics and Data Science*, and *Applied Research and Consulting*. Each is analytical in nature, but uses a somewhat distinct skill set.

We surveyed Bay Area job advertisements that express a preference for the master's in economics degree, over the course of one week in mid-May 2015 (there were 137 such positions in all). The main industries hiring were Business Advisory and Research (26%), Technology and Software (20%), as well as Health Care (15%), followed by Banking and Insurance (9%), Public Administration (7%), Social Services, Sustainability and Development (7%), and Power and Water (6%). To a lesser extent, employers from Construction, Engineering and Real Estate Services (3%), Retail and Logistics (3%), Consumer Products (2%), and Education (2%) were represented. These numbers leave out demand from universities and colleges for teaching-related positions. Not-for-profits accounted for slightly fewer than one-fifth (18%) of the advertised jobs.

The employers with the most positions advertised for master's in economics degree holders at this point in time were **PwC** (15), **Kaiser Permanente** (14), the **City and County of San Francisco** (6), **Uber** (5), **Roche-Genentech** (4), **BNP Paribas-Bank of the West** (3), and **Hewlett-Packard** (3).

2. SECTORS

The major sectors of employment are *for-profit corporations and firms*, *government and not-for-profits*, and *academia*. Each has some unique aspects and requirements, and you will face competition from MBAs and those with more specialized degrees. Where can you use your master's in economics to maximum advantage?

2.1. For-Profit Corporations and Firms

There is a considerable variety of roles that a master's in economics prepares you for in the corporate world: wherever quantitative analysis takes place, an economics background is the natural fit. In-house research is becoming increasingly central and advanced, favoring those with graduate training. In addition, advisory services that provide these services externally hire economists as consultants. Positions for which the master's in economics is a preferred degree are often called Analyst or Consultant.

Every professional degree represents a trade-off between specialization and flexibility. Economists have more specialized skills and a more focused job market than MBAs, but more widely applicable skills and broader career options than accountants, engineers, lawyers, or programmers. While MBAs are considered by employers for most business functions, economists are found primarily in areas that require "hard skills," like finance, marketing, and business intelligence, and less often in management, human resources, sales, or client relations. Both economists and MBAs have opportunities for advancement toward the executive level through their respective career tracks, although C-roles (CEO, CFO, COO, etc.) tend to be staffed with MBAs.

Conditional on work experience, economists have similar earnings prospects to MBAs in the corporate world. However, because an economist's profile is weighted more toward skills that are acquired through formal training, students admitted to a master's program in economics usually have less work experience than the typical MBA (or even none). By the same token, graduates from a master's program in economics exit with less work experience and therefore place on average in jobs that are closer to entry-level and lower-paid. On the other hand, with a master's in economics, you have a relatively steep career trajectory compared to your peers, since you already have advanced skills and an advanced degree that qualify you for higher-level responsibilities. Therefore, the pay difference is mostly one of timing.

Some of economists' main competitors in the market for corporate research jobs these days are “data scientists,” or “software engineers,” who often have a significant background in computer science, rather than business. “Big data” is the catch phrase for tasks relating to the retrieval, mining, and graphic depiction of information from large datasets, particularly sales data. While companies seek the specific programming skills that this work requires, most such positions also demand an economist's analytical capacities to correctly interpret results and draw valid conclusions. A specialized degree in big data analysis provides you with the command of software and routine tasks that employers look for, and is therefore valuable in the job market. An economics background, especially in combination with some advanced data management skills, gives you the edge on how to use the information, and excellent potential to advance toward a director-level role.

2.2. Government and Not-for-Profits

Although overall a smaller market than the private sector, cities, and state and federal government departments hire a significant number of economists in areas as diverse as urban and public transport planning, environmental protection, education policy, poverty alleviation and social benefits, management and regulation of utilities, and consumer protection. Non-academic economists also work in university administration and in various privately funded organizations that provide public goods, which are usually not-for-profit. Compared to business, more extensive validation and evaluation of policies and programs is required in the public and not-for-profit arena, and limited budgets must be allocated according to objective standards. This creates a strong demand for formal economic analysis and advanced degrees in economics.

A public sector or not-for-profit economist faces a somewhat different work environment from the for-profit private sector. Although compensation could be excellent, career progression and pay are usually less sensitive to performance, so intrinsic motivation, a passion for the organization's mission, is important. Less time pressure often means that a more detailed and accurate study of the economic issues is possible, which you might find rewarding.

In addition to various research positions with job titles such as Analyst or Specialist, graduates with a master's in economics may assume administrative roles like Planner, Manager, or Director. Although more senior positions require significant related experience, a relevant master's degree can often be substituted for a certain number of years, making it possible to enter at a higher level. Because these types of career paths tend to mix analytical expertise with administrative responsibilities, employers value applied public finance skills relating to project management, program evaluation, and budgeting.

2.3. Academia

The master's in economics can be a stepping stone to the PhD and a career as a university professor or expert. Although the academic job market is in general extremely competitive, economics is traditionally in higher demand and better paid than almost every other discipline. One reason is the competing demand for economics PhDs from other sectors: the Federal Reserve Bank, some government departments, the economic consulting industry, and transfer pricing practices of the big financial service firms exclusively hire PhDs for many roles.

The best PhD programs provide generous scholarships that often cover tuition as well as a stipend. As a result, they are very selective and expect a high level of preparation and evidence of achievement that undergraduate studies alone may not offer. Although not explicitly required, it is very common to pursue a master's before applying to PhD programs. This approach has three advantages: 1) you can build your academic profile with advanced classes that demonstrate your ability to perform at a relevant level and improve your GPA; 2) you have time to fix gaps in coursework that is critical to PhD admission; 3) you get close exposure to professors who can write effective reference letters for you.

All of these are necessary for getting into a good PhD program, which is essential for getting a good job later on. Unless your profile is already in perfect shape, and two or three professors know you well enough to write credible, enthusiastic letters, doing the master's first is the way to go. The master's in economics is also valued by business and public policy PhD programs (more than a master's in those fields) because of its reputation for analytical rigor.

When you finish your PhD, you become either an Assistant Professor (and, six years later, conditional on making tenure, Associate Professor, who is eventually promoted to Full Professor) or an Economist or Senior Analyst or Consultant outside academia. Unlike in science, there is usually no postdoc stage, so you get a “real” job right away. If an Assistant Professor fails tenure, options are moving to another university or the public or private sector. It is quite rare for an economics PhD to be involuntarily out of a job (a very different picture from humanities PhDs).

3. JOB CATEGORIES

Although there are differences between the private for-profit and public / not-for-profit sectors, there are related job roles in each, falling within the broad categories of *Finance and Administration*, *Marketing Analytics and Data Science*, and *Applied Research and Consulting*. Here is a closer look.

3.1. Finance and Administration

Jobs in *Finance and Administration* are about tracking company or project performance and identifying areas and actions for improvement. This is the largest category in the dataset, accounting for close to half (45%) of the relevant advertised jobs. Over one-third (34%) are not-for-profit jobs, which often involve program administration and evaluation.

About one fifth of these jobs (18%) were in Banking and Insurance (including **BNP Paribas-Bank of the West**, **State Compensation Insurance Fund**, **Wells Fargo**; **Allianz**, **Citibank**, **North Star**, **Renewable Funding LLC**). Other industries looking in this category were Business Advisory and Research (15%, including **PwC**; **BlackRock**, **Ernst & Young**, **McGraw-Hill Financial**, **RGP Consulting**, **T&M Consulting**), Public Administration (15%, including **City and County of San Francisco**; the **Cities of Berkeley**, **Concord**, and **Oakland**), Technology and Software (15%, including **Hewlett-Packard**; **Lending Club**, **Lockheed Martin**, **Twitter**, **Uber**, **VMware**), Power and Water (10%, including **NRG**, **Sun Edison**; **City of Alameda**, **Santa Clara Water District**), Social Services, Sustainability, and Development (10%, including **ATR International**, **First Community Housing**, **Mission Economic Development**, **Opportun**, **Resources for Community Development**, the **Walnut Avenue Women's Center**), and Health Care (8%, including **Kaiser Permanente**, **Roche-Genentech**; **Stanford Hospital and Clinics**). Employers in other industries were **Clorox**, **Keyser Marston Associates**, **Lawrence Berkeley Lab**, **MWH Global**, **TNT**, and **UC Berkeley**.

Typical entry- to mid-level roles, in for-profit companies, are:

- Financial Analyst
  Projects revenues, costs, and profits, and assesses company performance against projections.
- Benefits Planner
  Optimizes employee benefit plans based on cost calculations, using statistical models to account for risk.
- Valuation Researcher
  Determines the market value of assets such as real estate, intellectual property, or stock; executes trades.

(Keep in mind that the exact job titles have many variations; the listed ones are only representative.)

These career paths may ultimately lead to senior executive positions that manage a business unit or company with wide-ranging operational responsibilities.

Typical entry- to mid-level roles, in government or not-for-profit organizations, are:

- Administrative Analyst
  Performs a variety of analytical tasks related to budget, procurement, and program evaluation.
- Budget Officer
  Makes revenue and cost forecasts, approves public investments, develops budget procedures.
- Project Manager
  Designs and leads the implementation of public or NGO initiatives on a budget, while evaluating impact.

These career paths may ultimately lead to senior administrator positions that are responsible for staffing and directing a program, department, or NGO while meeting budget constraints and raising funds.

Complementary skills, beyond economics training, are familiarity with financial statements, accounting practices, and risk analysis, project management, as well as command of advanced spreadsheet (Excel) features and enterprise software (like SAP and Oracle).

3.2. Marketing Analytics and Data Science

These days, *Marketing Analytics* is about working with large datasets and requires technical skills for managing and querying databases and generating descriptive graphics, as well as econometric expertise for deriving statistically valid insights and recommendations. It has become the cousin of *Data Science*. Jobs in this category accounted for nearly a third (31%) of all relevant jobs advertised, almost all of which were with for-profits. Roughly half (42%) of these jobs were in Technology and Software (including **Uber**; **Apple**, **Nexon M**, **Radium One**; **Ancestry.com**, **Auction.com**, **Autodesk**, **Citrix**, **Duo Security**, **Expert System**, **Facebook, Symantec**, **Truecaller**), and about one fifth each in Health Care (21%, including **Kaiser Permanente**; **Roche-Genentech**; **Abbott**) and Business Advisory and Research (19%, including **Manthan Systems**; **Kennedy Group**, **Lucas Select**, **Moody's**, **Nexant**, **Numeric**, **PwC**). Other sectors looking in this category were Retail and Logistics (7%, including **One Kings Lane**; **Walmart**) and Consumer Products (5%, **Medtronic Covidien**). Employers in other industries were **GE Power & Water** and **Opportun**.

Typical entry- to mid-level roles, in for-profit companies, are:

- Data Scientist
  Administers large databases, programs queries, mines and graphically represents data.
- Pricing Analyst
  Develops product packaging and pricing strategies.
- Market Researcher
  Tracks market conditions and consumer preferences to optimize product design and positioning.

These career paths may ultimately lead to product / brand manager positions that are in charge of the development and promotion of a particular product or product group, or alternatively towards the director of analytics, who oversees database management and research.

Complementary skills, beyond economics training, are forecasting techniques and, particularly, experience with specialized software: statistical programs (like SAS, R, and Python), data query languages (especially SQL, but also Hadoop), graphics applications (like Tableau), and web analytics tools (Omniture).

3.3. Applied Research and Consulting

Applied Research and Consulting is a collective term for a range of specialists and experts who use analytical models and techniques to provide business and policy advice to external and internal clients, public administrators, and the population at large. Economists are naturally suited to these tasks. Nearly a quarter (24%) of the relevant advertised jobs fell into this category, just under one tenth (9%) of which were with not-for-profits. More than half (52%) of these jobs were in Business Advisory and Research (including **PwC**; **Armanino LLP**, **Asset Mark**, **Bessemer Trust**, **BlackRock**, **ICF International**, **Navigant Consulting**), and about one fifth (18%) in Health Care (**Kaiser Permanente**). Other sectors looking in this category were Banking and Insurance (6%, including **BNP Paribas-Bank of the West**, **SVB Financial Group**); Construction, Engineering, and Real Estate Services (6%, including **Jacobs**, **Parsons Brinckerhoff**); Technology and Software (6%, including **Uber**, **Weebly**); and Social Services, Sustainability, and Development (6%, including **Climate Policy Initiative**, **Innovate Public Schools**). Employers in other industries were **PG&E** and **UC Berkeley**.

Typical entry- to mid-level roles, in for-profit companies, are:

- Consultant
  Applies analytical models or other expertise to offer proprietary solutions and advice to external clients.
- Strategy Analyst
  Monitors industry trends and competitor behavior and performance to guide internal strategic thinking.

These career paths may ultimately lead to partner in a professional services firm, one's own consulting practice, or a senior executive position elsewhere.

A typical entry- to mid-level role, in government or not-for-profit organizations, is:

- Policy Researcher
  Develops deep expertise in a specific public policy area and communicates it through public reports.

This career path may ultimately lead to a senior administrator position in a government department or NGO, a move to the private sector as a professional expert or independent consultant. In such capacities, one might prepare commissioned reports and give paid testimony to court or legislative bodies.

Complementary skills, beyond economics training, are specific to the fields of expertise, common ones being finance, energy, health care, education, and environmental studies.

3.4. Teaching

Jobs in *Teaching* are advertised on professional boards. There are two different tracks. Most

colleges and universities, and particularly community colleges, constantly hire external instructors ("adjuncts" or "lecturers") on an as-needed basis. To qualify, one would usually need at least a master's degree in the field, and in order to be considered, one typically contacts the department to join its lecturer pool. Alternatively, there are full-time academic jobs, but these are normally only open to those with a PhD. PhD economists are hired via a centralized international job market that runs from late fall to early spring.

With a master's:

- *Instructor*
  Teaches economics courses at community colleges and entry-level classes at other tertiary institutions.

There are no opportunities for promotion within academia, unless one gets hired into a tenure-track position (which requires the PhD). Instructors generally just want to continue to be invited to teach. For some, this is their principal source of income, while others have another main job and teach on the side (for enjoyment, prestige, income, or a combination of these).

With a PhD, the entry-level position is:

- *Assistant Professor*
  Teaches advanced economics courses, pursues scientific research, and supports university administration.

After six years, Assistant Professors are considered for tenure, based on publication output, teaching performance, and university service. If successful, they are promoted to Associate Professor at this point, and potentially to Professor in the future (if unsuccessful, they must leave the university). Professors may take on temporary administrative roles during their careers, such as Department Chair or Dean, but normally they remain Professors until they retire.

The essential qualification for the academic career path is, of course, the PhD, which takes 4 to 6 years to complete (and is often fully funded by the university). Admission to PhD programs is highly competitive.