EPRU BULLETIN

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Economic & Policy Research Unit

EPRU Director's Message

One of the important challenges facing economic policy makers in the UAE, at both the Federal and Emirate level, is how to make the best possible decisions when it comes to introducing new regulations, or eliminating existing regulations, that directly affect areas of economic activity. In some respects, given the booming economies in Dubai, Sharjah and Abu Dhabi, the challenges are less important than they might otherwise be, and it seems there is little potential margin for error or danger that a policy mistake or misjudgment may lead to a long-lasting or negative impact on economic activity.

However, the quality of economic policy decision-making is largely dependent upon the quality of economic advice that policy-makers receive. Although there are well-known problems with the quality of economic data in the UAE overall, nevertheless, there is a lot of good data collected at the Emirate level that either fails to see the light of day or is not properly or adequately analyzed or used for policy making purposes. Also, there is a tendency in the UAE to seek the advice of consultants and external experts to provide advice on specific issues or matters.

What is needed is the development of, and improvement in, the level of economic research capacity and analytical skills within the various economic ministries and departments throughout the UAE. These skills need to be built up within the national workforce. Such "up-skilling" is often achieved by working closely with highly trained, Ph.D. qualified, non-national economic researchers who are embedded in ministries and departments for extended periods. Economic research is valuable work that impacts directly on economic decision making.

The UAE needs better quality economic research to be produced within its various ministries and departments. There exists great opportunity for nationals with an interest in economic research and concern for the economic decision making process to make a difference and get involved in a rewarding and fulfilling career.

- Dr. Kenneth Wilson,
Professor of Economics and Director, EPRU

Middle East Economic Association 6th International Conference Update

As of the abstract closing deadline of 6 November 2006, the 6th International Middle East Economic Association Conference received over 260 abstracts for consideration for presentation. Under the patronage of His Excellency Sheikh Nahayan Mabarak Al Nahayan, Zayed University will be the first Gulf host of the Middle East Economic Association (MEEA) international conference, which will be held on the Dubai campus 14-16 March 2007.

Recent Publications and Conferences

Squalli, J., Wilson, K., & Hugo, S. "An Analysis of Growth Competitiveness," forthcoming in *International Review of Applied Economics*.

Squalli, J. & Wilson, K. "Openness and Access," forthcoming in *Applied Economics*.

Dr. Jay Squalli and Dr. Kenneth Wilson presented two co-authored papers at the *35th Australian Conference of Economists*, Perth, Australia, 24-28 September 2006 titled: (i) "A new approach to measuring trade openness"; and (ii) "An examination of Australian growth competitiveness."

EPRU Team

Dr. Kenneth Wilson (Ph.D., University of Wisconsin-Milwaukee), *Professor of Economics & Director, EPRU,* specializes in international trade regulation, country competitiveness, and labor market research.

Dr. Jay Squalli (Ph.D., University of Delaware), *Assistant Professor of Economics & Researcher, EPRU,* specializes in financial market analysis, industrial organization, and applied econometrics.

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Inside this Issue

About the EPRU Bulletin

The EPRU Bulletin is a regular publication of the Zayed University Economic & Policy Research Unit and provides rigorous academic and applied analysis of economic issues relating to the UAE and the MENA region, as well as news and events. Paper copies are sent to our mailing list. To join, email **epru@zu.ac.ae**. An Adobe Acrobat version can also be downloaded from our Web site at: **www.zu.ac.ae/epru**

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UAE Workforce Projections

By Dr Jay Squalli
Assistant Professor, Economic Policy Research Unit

The forecasting of workforce changes over time is a complex task due to the evident uncertainty about future trends and potential unexpected shocks. When data are limited and causal relationships are difficult to establish, forecasts can be derived using historical data and past forecast errors. This is generally accomplished using a simple method of adaptive forecasting, generally known as exponential smoothing. This procedure is effective when you have only a small number of observations on which forecasts are based. Unlike forecasts from regression models which use fixed coefficients, forecasts from exponential smoothing methods adjust based upon past forecast errors.

Exponential smoothing can be adapted to fit the particular characteristics of the available data. When the series move randomly above and below a constant mean with no trend nor seasonal patterns, a single exponential smoothing method is appropriate. When the series exhibit a linear trend, the single smoothing method can be applied twice (using the same parameter). This essentially requires that the raw series are smoothed as a first step and the smoothed series are re-smoothed as a second step. The benefit of such a procedure is to smooth any (minor) inflection points at the end of the series while taking into account the existing trend versus treating it as a structural change.

We now consider the question: what will the UAE workforce look like in the next decade? To answer this question, we look at forecasts of workforce growth by sector for the UAE.

Figure 1 shows that the workforce in the UAE **agricultural sector** has experienced tremendous growth over the past 20 years going from 40,000 workers to around 160,000 between 1985 and 2004. Given the observed trend, the workforce is expected to grow by 15% by 2010 and by 34% by 2015.

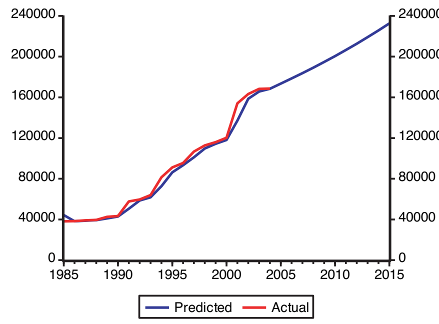

Figure 1: Actual and Predicted Agriculture Sector Workforce

The workforce in the **construction sector** of the UAE currently stands at 400,000 workers, as shown in Figure 2, and is expected to grow by 61% by 2010 and by about 206% by 2015.

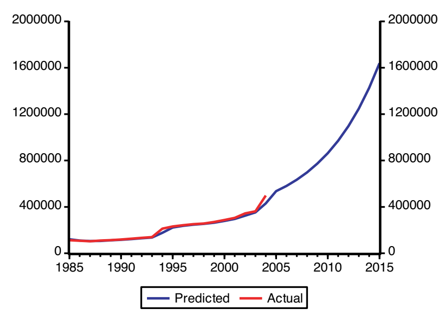

Figure 2: Actual and Predicted Construction Sector Workforce

The workforce in the **electricity, water, and gas sector** has almost doubled since 1985 (Figure 3). It is expected to increase further by 18% by 2010 and by 49% by 2015.

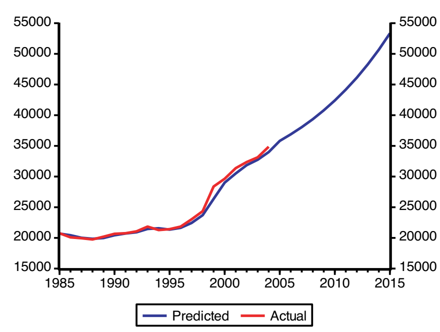

Figure 3: Actual and Predicted Electricity, Water & Gas Sector Workforce

When data are limited and causal relationships are difficult to establish, forecasts can be derived using historical data and past forecast errors. This is generally accomplished using a simple method of adaptive forecasting, known as exponential smoothing.

Although the workforce of the UAE **financial sector** appears to be growing in Figure 4, the expected workforce gain is only estimated at 8.68% by 2010 and 18% by 2015.

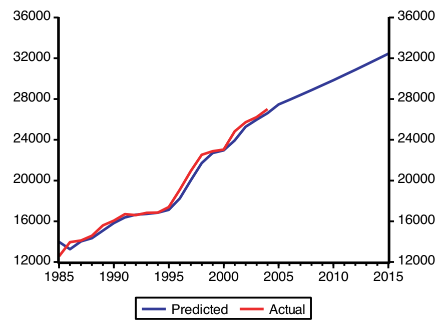

Figure 4: Actual and Predicted Financial Sector Workforce

Assuming the current trends persist, the **public sector** workforce is expected to be about five times as large as the 1985 levels (Figure 5). The workforce is expected to grow by 28% by 2010 and by 76% by 2015. The workforce is expected to almost double between 2004 and 2015.

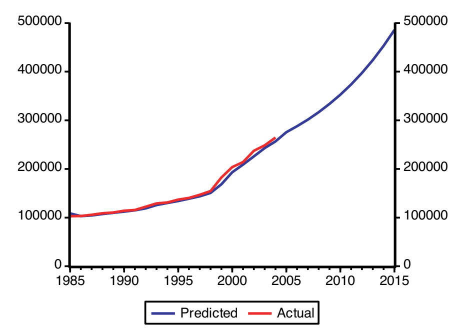

Figure 5: Actual and Predicted Public Sector Workforce

The workforce in the **domestic services of households sector** is expected to be six times as large as the 1985 levels by 2015, as shown in Figure 6. The workforce is expected to grow by 11% by 2010 and by about 23% by 2015.

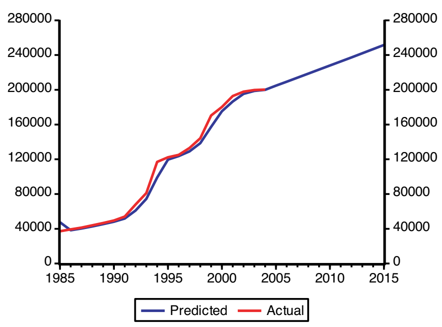

Figure 6: Actual and Predicted Domestic Services of Households Sector Workforce

The UAE **manufacturing workforce** has good growth potential and is expected to rise by 27% by 2010 and by about 68% by 2015 (Figure 7).

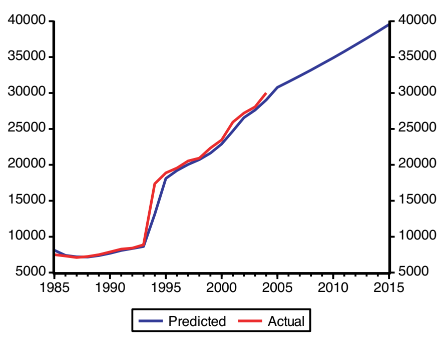

Figure 7: Actual and Predicted Manufacturing Sector Workforce

Figure 8 indicates that the UAE **oil and natural gas sector**, mainly driven by Abu Dhabi, is expected to grow by 13% by 2010 and by 28% by 2015.

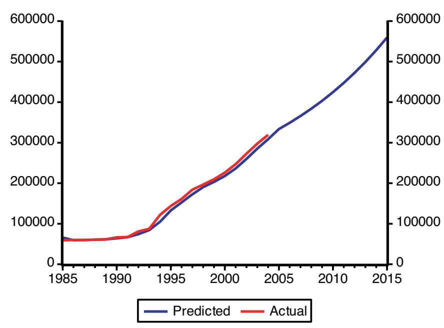

Figure 8: Actual and Predicted Oil & Natural Gas Sector Workforce.

The **real estate workforce** is expected to grow by about 28% by 2010 and by 66% by 2015 (Figure 9).

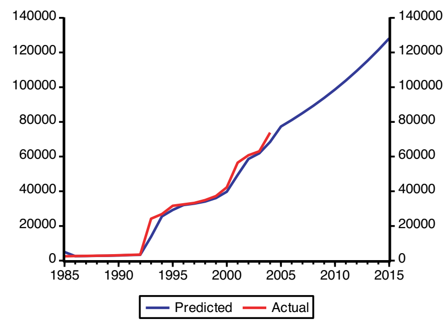

Figure 9: Actual and Predicted Real Estate Sector Workforce

...(F)orecasts which predict that the workforce ought to shrink by 7.45% by 2010 and by 9% by 2015 should be treated with caution...The (shocks which produce these trends) result in forecasts which are biased downwards.

Although the workforce of the **wholesale retail trade & repairing sector** has suffered two minor structural breaks in 1995 and in 2004, it appears to exhibit an upward trend (Figure 10). Hence, it is expected to grow by about 12% by 2010 and by 24% by 2015.

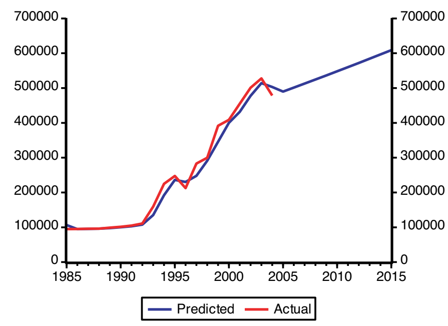

Figure 10: Actual and Predicted Wholesale Retail Trade & Repairing Sector Workforce.

The UAE workforce in the **social and personal services sector** appears to exhibit a major shock in 1992 which led to a substantial decrease in the workforce. This structural change will subsequently affect any forecasts. In fact, as observed in Figure 11, the predicted line begins to slope downward immediately after the end of the actual (observed) series. The predicted values are clearly biased downward by the observed shock. Because of the uncertainty revolving around this shock, it is not possible to exclude it from the estimations without further investigation. Hence, forecasts which predict that the workforce ought to shrink by 7.45% by 2010 and by 9% by 2015 should be treated with caution.

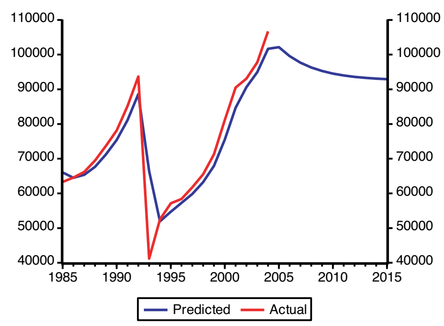

Figure 11: Actual and Predicted Social & Personal Services Sector Workforce

Similarly to the social & personal services sector, the workforce in the **transportation, storage, & communication sector** experience a shock in the mid-1990s (Figure 12). This results in forecasts which are biased downwards. The workforce is therefore expected to shrink by about 3% by 2010 and by 4% by 2015. Again, these forecasts should be treated with caution.

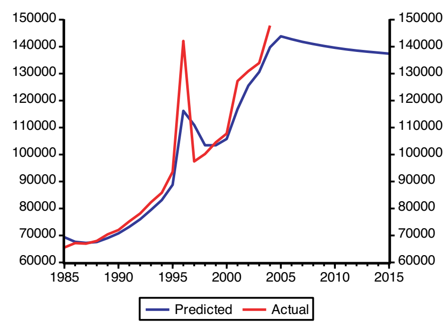

Figure 12: Actual and Predicted Transportation, Storage & Communication Sector Workforce.

How competitive is the UAE in the global economic stakes?

By Dr Kenneth Wilson
Professor of Economics and Director, EPRU

There is currently keen interest amongst key policy makers in the UAE concerning just how competitive the UAE is in comparison to its GCC neighbors, other MENA countries and in comparison to a broader group of countries from outside its sphere of influence. International benchmarking is popular across many levels of the UAE society and economy, whether it be in terms of broader human development measures, or more narrowly defined economic indicators. Two recent studies have been published that draw attention to the ability (or inability) of the UAE to compete internationally in several important areas. The first study is the World Economic Forum (WEF) *Global Competitiveness Report 2006-2007*. The WEF provides evidence on the global competitiveness of 125 countries and ranks each according to it Global Competitiveness Index (GCI). The UAE is one of four GCC countries included in the sample and is ranked 32nd out of the 125 countries. By comparison Qatar is ranked 38th, Kuwait 44th and Bahrain 49th (Oman and KSA are not included). The UAE is also the highest ranked country in the MENA region (excluding Israel which is ranked 15th).

The second study of Dubai in world competitiveness 2005 is published by *IMD International*. This is a more restricted and inconsistent sample of 61 regions in the world. The sample comprises 51 industrialized and emerging countries, 9 regional economies (such as Maharashtra in India, Bavaria in Germany and Zhejiang in China), and one city, Dubai. This is a very curious grouping of 'places' of all different shapes, sizes and boundaries. The IMD ranks its 61 'places' using 314 criteria grouped into four competitiveness factors: Infrastructure; Economic performance; Government efficiency; and Business efficiency. The IMD report is very user friendly to read and digest with excellent graphics and clear explanations, but it is devoid of academic respectability and makes no claims that its competitiveness indicators have any real theoretical foundation. Still, some useful information can be extracted from the IMD Report and interestingly Dubai is ranked 17th out of 61 'places ' and comes between New Zealand and Austria in the rank order. Since Dubai is perceived by many in the UAE to be the engine of growth driving the UAE's international competitiveness forward, its relatively high ranking is interpreted by some to indicate the extent to which Dubai leads the UAE along its global competitiveness path.

> *…(O)n macroeconomic management, the UAE is a world leader. However in other areas such as Higher Education & Training (58th), and Health and Primary Education (99th) the UAE does very poorly.*

However, just what can we interpret from these two rank positions: 32nd out of 125 for the UAE in the WEF Global Competitiveness Report and 17th out of 61 in the IMD Report? The best way to answer this question is to take a closer look at the GCI produced by the WEF. The GCI has a strong pedigree in economic theory and although rather simple in structure provides a holistic over view the main drivers of productivity and competitiveness. The WEF divides these drivers into nine categories or pillars of global competitiveness as follows:

- Institutions
- Infrastructure
- Macroeconomy
- Health and Primary Education
- Higher Education and Training
- Market Efficiency
- Technological Readiness
- Business sophistication
- Innovation

To determine the ranking of each of the 125 countries against each of these pillars the WEF uses hard data collected form reliable third parties such as the IMF and World Bank, as well as survey data collected from an Executive Opinion Survey.

Table 1 provides the rank positions of each of the GCC countries in the sample of 125 for each pillar of the GCI. The table is very informative. All four GCC countries are ranked outstandingly on Macroeconomy: Kuwait 2nd, Qatar 3rd, UAE 4th and Bahrain 11th. Therefore, on macroeconomic management, the UAE is a world leader. However in other areas such as Higher Education & Training (60th), and Health and Primary Education (102nd) the UAE does very poorly. This breakdown of the GCI into its nine pillars therefore provides very useful information on what is currently constraining the UAE's rank position to 32nd. If the UAE aims to improve its rank position it must increase its investment in the education of its people and increase its investment in research and development. The UAE has world class institutions, infrastructure and market efficiency but needs to build its innovative capacity and research ability. In the global world economy where ideas and knowledge generation propel productivity growth, the UAE lags many countries. There must be a concerted push to move the economy and society forward to a greater knowledge base by investing in research capacity and development.

Table 1: Rank position of selected GCC countries amongst 125 countries for each pillar of the GCI

GCC Country	Institutions	Infrastructure	Macroeconomy	Health & Primary Education	Higher Education & Training	Market Efficiency	Technological readiness	Business Sophistication	Innovation
UAE	28	25	6	102	60	23	27	38	42
Qatar	16	41	3	37	46	30	39	69	41
Kuwait	38	45	2	76	59	29	46	33	81
Bahrain	45	40	11	30	64	39	41	55	101