



## YOUNG MAN IN A

# HURRY

BY BARBARA ELMORE

The **MOST RECENT** summer in senior Daniel Lin's life could be mistaken for an episode of television's "Amazing Race," where teams trek around the globe to complete tasks and win prizes. In about eight months, Daniel went from the United States to Germany, then traveled to the Netherlands to arrive in Suriname.

**IN A DEPARTURE FROM TV**, however, Lin was a one-man team, and the internship and research he completed might help solve a real problem.

Lin first went from Houston, his home, to Germany, where he spent five months as an exchange student at Cologne Business School. After a long-distance interview for the internship, he traveled to the Netherlands because that was the best way to get to Suriname.

Once in the capital city of Paramaribo, he spent two months investigating the country's unrecorded economy as an intern for the Inter-American Development Bank (IADB), the leading source of developmental financing for Latin America and the Caribbean,

Musheer Kamau, a Baylor alumnus and Lin's supervisor in Suriname, met Lin for the first time in a Skype interview. Lin recalled with a laugh that Kamau wanted to know why he was in Germany. The answer was simple: Lin wanted to study in a country that was new to him.

Kamau also wanted to understand how Lin would approach his tasks. "He already had my resume," Lin said. "He wanted to confirm my econometrics skills."

## RESEARCH IN ACTION

One of his questions was how one determined whether a country was doing well. "I said when people are happy." As happiness indicators, Lin used economic freedom, press freedom and the Human Development Index, or HDI, a statistical tool that measures a country's achievements socially and economically by using income, education and life expectancy.

Rigorous preparation was one of the factors that influenced Baylor alumnus Kamau, a country economist at the IADB, to hire Lin for the internship. "Daniel had very strong preparation for the work," said Kamau, who was a University Scholar. "His transcript was impressive. However, his main selling points were his research achievements, evidence of an affinity for research and a good sense of humor."

The 21-year-old senior decided to pursue a BBA in the Business Fellows program because of the benefits. Once accepted into the honors plan, he could choose the courses he wanted to take. Lin chose electives that he could use as second and third business majors of economics and finance.

With Kamau as his guide and co-author, Lin examined statistics and completed a paper titled "Hiding in the Shadows—Estimating the Size of the Informal Economy in Suriname." He presented the work to an audience that included the cabinet of the country's vice president.

Sometimes Lin worked alone, but "on his main research project, we spent a considerable amount of time together and with the rest of the economic team," Kamau said. "Also, as Daniel lived with my family, we would sometimes be talking about the research until late into the night. Once Daniel got started, he was not inclined to stop."

The investigation used databases for the years 1980 to 2013 for the analysis of Suriname's informal economy, which the researchers defined as business transactions hidden from official reports, mainly to avoid paying taxes. The informal economy can be as simple as a teacher making money tutoring on the side.

Using econometrics, the team created equations to estimate the size of this hidden economy. As an example, Lin noted that an econometric analysis of a student's GPA might include information about how many siblings he has, where he was born and his family's income to reveal whether those factors affect his college GPA and how.

"Econometrics is a way to find relationships that are easily quantifiable," he said.

The research is important to developing countries because the methods that leaders use to judge their country's economic

performance rely on known and published data. "If the informal economy is not reflected, you don't know what is going on economically," Lin said. If the size of the informal economy is large enough, an incomplete report can result in policies that might not work the way planners wish.

Lin's research confirmed earlier studies showing that political stability, good economic policy and an overall positive business environment reduce informal activity.

Lin spent three weeks preparing for the presentation. He and Kamau planned differently than they would have in an academic setting, Lin said. "I spent two weeks just learning how to make good graphs and make sure they were easy to understand. It was intense, but it came out really well."

He also presented suggestions to deal with the issue of the hidden economy, and he believes that one or more of the proposals will be implemented. One recommendation was to create a consumption-based tax. Eventually, the bank will publish the study.

"The members of the cabinet of the vice president received the presentation very well," Kamau said. "Daniel was well-prepared and was armed with several engaging analogies to make a difficult concept understandable. There was an immediate demand for the paper and the presentation."

Charles North, associate professor of Economics and associate director of the Business Fellows program, said Lin possesses an adventurous streak that made him a good choice for the internship. Previous exposure to economic research in a program between universities and the Dallas Federal Reserve Bank gave him experience, North added.

"When he was an underclassman, he attended presentations and was exposed to undergraduate research. He was also part of a peer review program, and they reviewed research in advance of the presentations. Daniel was a discussant by the time he was a sophomore. That exposed him to what research looks like and made him better able to go do it and pull it together the way the IADB wanted to see it."

In addition to providing an engaging summer internship, the study helped Lin in two ways. First, he learned more about an econometric technique called time series regressions, where the researcher studies a specific subject or variable over a period of time. Second, he is applying for a PhD program in Economics and said the published paper could help him gain acceptance. And for his bachelor's thesis, Lin is expanding the study to six other Caribbean countries.

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