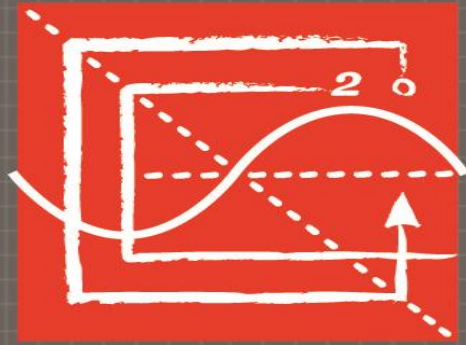


CONNECTING ENGINEERING EDUCATION AND PROFESSIONAL PRACTICE

Davy McDowell, PE – NCEES COO



NCEES

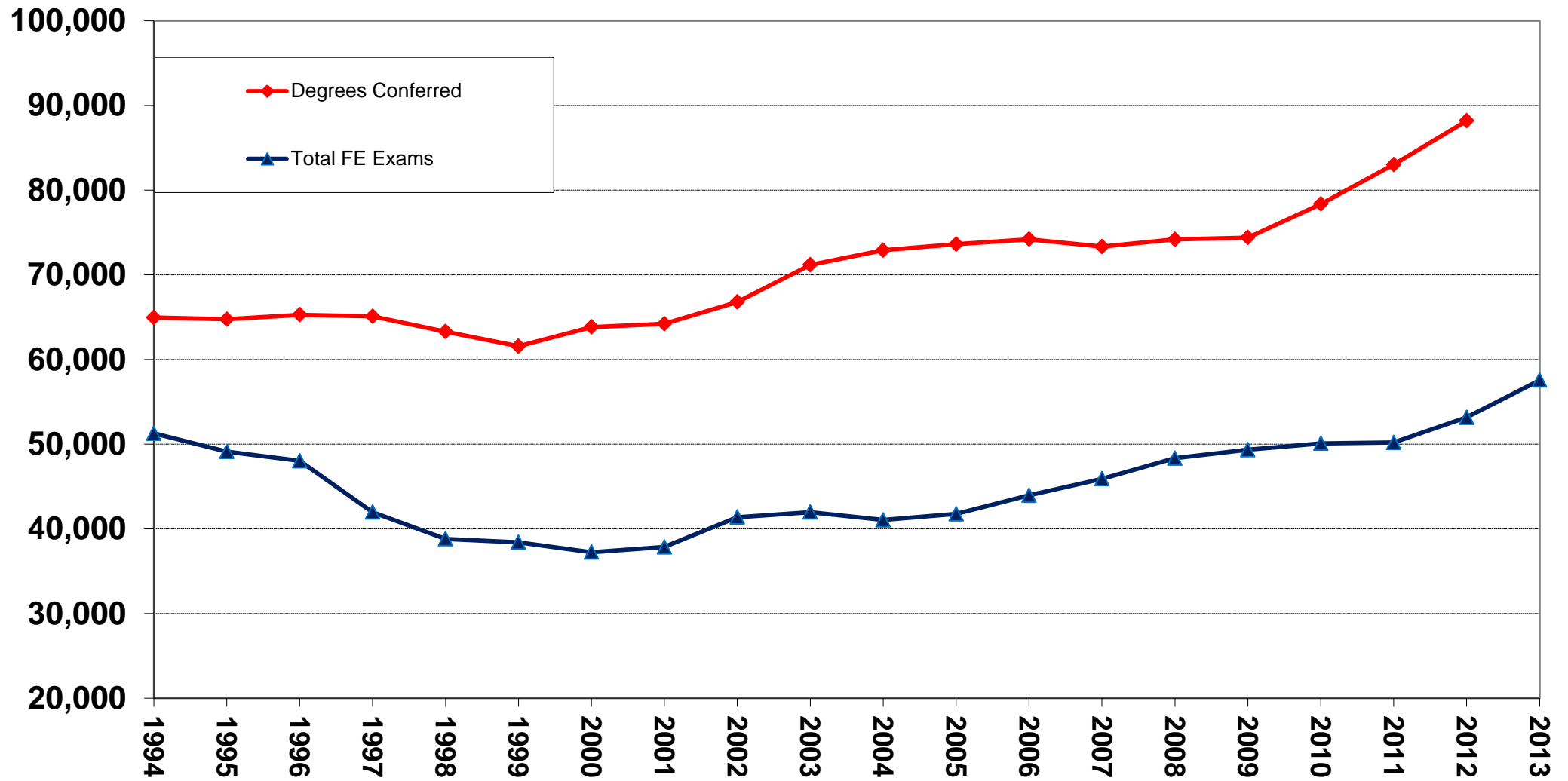
*advancing licensure for
engineers and surveyors*

NCEES mission

The mission of NCEES is to advance licensure for engineers and surveyors in order to protect the health, safety, and welfare of the public.

Degrees Conferred Compared to Actual FE Usage

Source: AAES and ASEE Profiles of Engineering and Engineering Technology Colleges



NCEES mission

The mission of NCEES is to advance licensure for engineers and surveyors in order to protect the health, safety, and welfare of the public.

The “practice of engineering”

- Owning a firm
- Consulting
- Signing a design
- Bidding for public funding
- Advertising services

Definition can vary by state



divide by coefficient $\frac{H}{T^2}$

$$\frac{k}{m_0} \frac{H^2}{T^2} \left(\frac{T^2}{H} \right) \left(\frac{d\bar{z}}{d\bar{t}} \right)^2 - g \left(\frac{T^2}{H} \right) + \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$

$$\underbrace{\frac{kH}{m_0}}_E \left(\frac{d\bar{z}}{d\bar{t}} \right)^2 - \underbrace{g \left(\frac{T^2}{H} \right)}_B + \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$

NCEES Model Law

$$E \left(\frac{d\bar{z}}{d\bar{t}} \right)^2 - B + \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$

Given boundary conditions $z=H$ $t=T$

$$\bar{z} = \frac{z}{H} = \frac{H}{H} = 1$$

$$\bar{t} = \frac{t}{T} = \frac{T}{T} = 1$$

This will apply to all size systems if

E & B are the same for all systems.

$$(B)_m = (B)_p$$

$$\left(\frac{gT^2}{H} \right)_m = \left(\frac{gT^2}{H} \right)_p$$

assume $g_m = g_p$

$$T_m^2 = T_p^2$$

NCEES Model Law

1. NCEES *Model Law* changes in 2020
2. De-sequencing the licensure process

divide by coefficient $\frac{H}{T^2}$

$$\frac{k}{m_0} \frac{H^2}{T^2} \left(\frac{T^2}{H} \right) \left(\frac{d\bar{z}}{d\bar{t}} \right)^2 - g \left(\frac{T^2}{H} \right) + \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$

$$\underbrace{\frac{kH}{m_0}}_E \left(\frac{d\bar{z}}{d\bar{t}} \right)^2 - \underbrace{g \left(\frac{T^2}{H} \right)}_B + \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$

Transition to CBT

$$E \left(\frac{d\bar{z}}{d\bar{t}} \right)^2 - B + \frac{d^2 \bar{z}}{d\bar{t}^2} = 0$$

Given boundary conditions $z=H$ $t=T$

$$\bar{z} = \frac{z}{H} = \frac{H}{H} = 1$$

$$\bar{t} = \frac{t}{T} = \frac{T}{T} = 1$$

This will apply to all size systems if

E & B are the same for all systems.

$$(B)_m = (B)_p$$

$$\left(\frac{gT^2}{H} \right)_m = \left(\frac{gT^2}{H} \right)_p$$

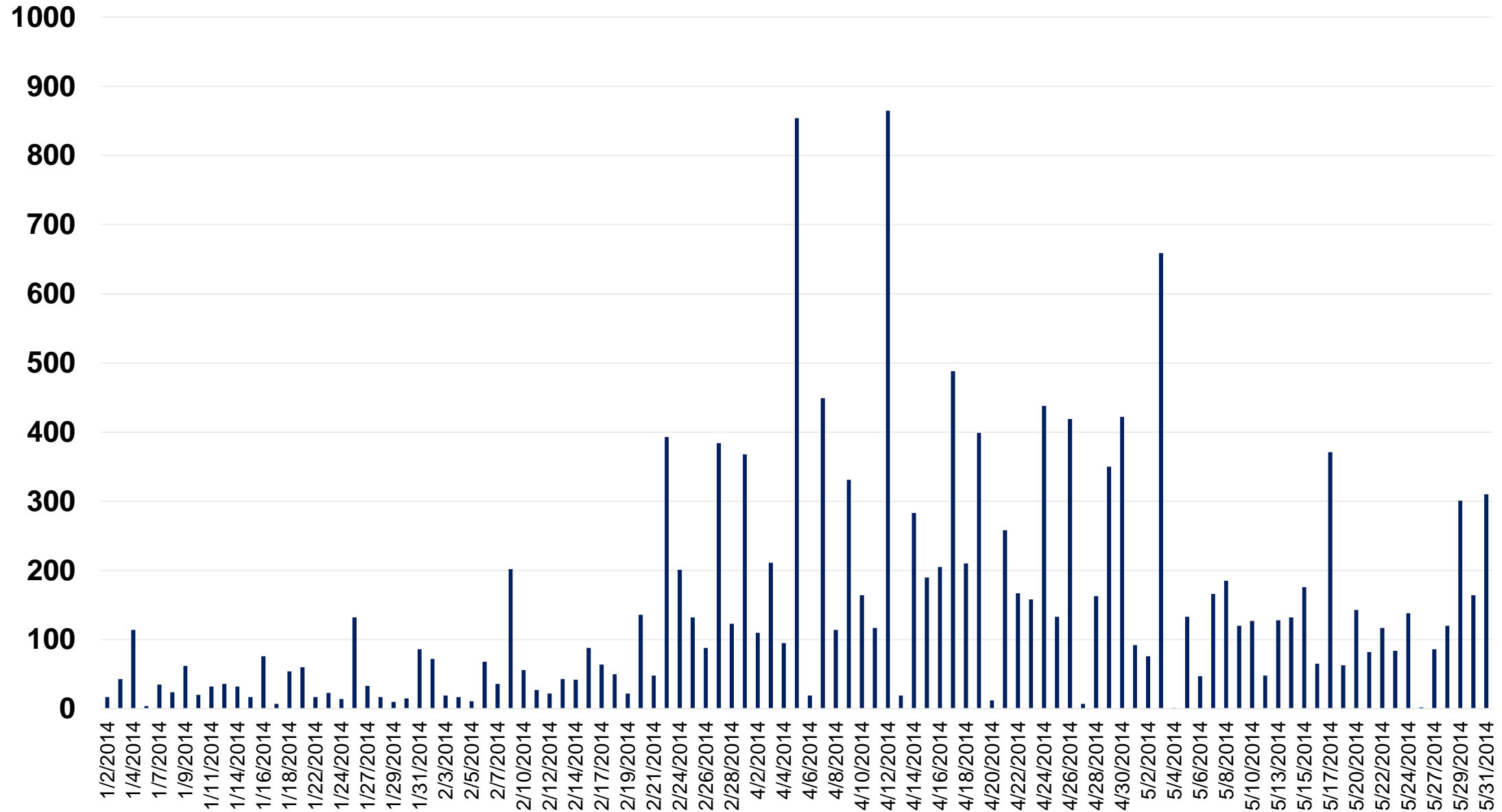
assume $g_m = g_p$

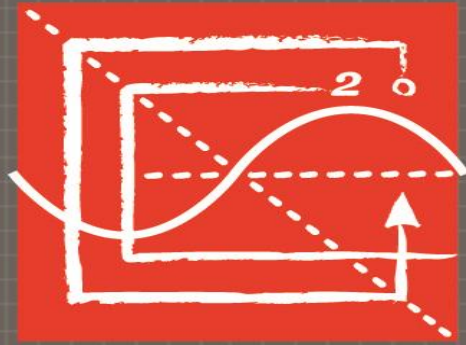
$$T_m^2 = T_p^2$$

FE current status

	FE	
	Scheduled	Delivered
Jan/Feb	0	3,216
Apr/May	10,461	1,580
Jul/Aug	1,004	0
Registered not Authorized	995	NA
Authorized not Scheduled	2,995	NA
Total in the System	15,455	4,796
04/07/14		

FE Examinees





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