Hi I'm Richard Martin. I'm ahead of innovation for the payments council that's the organization that runs a payment services in the UK I'm also a guest lecture at Royal Holloway and an information security course the question. I want you consider today is how well prepared do you think the sector you work in is to fight cybercrime particularly organised cyber crime. As one famous bank robber once said attacks against banks are good because that's where the money is. Now if you look back over the last few years one of the most notable developments in cybercrime has been the entrance of organized criminal gangs into this activity and if you look at it more closely you'll see that certain techniques such as fishing information, stealing malware, DNS hijacks, melanin browser type attacks. These are all developed by organized criminal gangs in order to attack remote banking services and to steal the money in victims bank accounts over the years. Banks have been engaged in an ever developing arms race against these organized criminal gangs with one side developing better and more sophisticated attacks and the other side developing harder and more effective defensive techniques to combat those attacks we've now reached the point where these techniques have become extremely polished on either side. So the criminal gangs have developed extremely convincing social engineering techniques like fishing the original phishing emails looked crude and horrible with lots of spelling and grammatical mistakes but now they look almost identical to messages that you would expect to see from a real financial institution. Likewise malware has evolved to the point where it is virtually bug free keeps up-to-date with the latest patches that operating system vendors put out and is extremely subtle in the way it works very difficult to spot even for the best antivirus software and and so banks have had to again up their own game in terms of understanding. These threats and building proper defenses that enable themt o protect their clients funds and protect their own reputations as well however we're now reaching the point where the sophistication of<these defenses by the banking findustry has made extremely challenging for criminal gangs to be. Able to turn a profit from their nefarious activities. So again turning back to the very original question what happens when criminal gangs start to see their profits declining from the financial services sector and start looking around everywhere else and indeed we've already started to see these types of attacks emerging in other sectors between attacks against online gaming for example or media organizations or Internet service providers. Most of these attacks are being fairly amateurish by comparison to what we've seen in the financial services sector and therefore you would expect to see some rapid evolution over the next few months and years once the organized criminal gangs really get their act together and start turning their sophisticated arsenal of attack techniques and against these other industry sectors. So again my original question is how prepared do you think the sector that you work in is to face the same types of attacks the same intensity of attacks that we've seen in the banking industry you.